The Harveian Oration

DELIVERED AT THE

ROYAL COLLEGE OF PHYSICIANS,

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SIR WILLIAM JENNER, HONOURED PRESIDENT OF THIS LEARNED COLLEGE,—Before entering on the subject which now brings us here, I must ask you to accept my thanks for the distinction you have conferred on me in selecting me for the office I have the honour to fill to-day—an honour, allow me to add, which carries with it a special gratification to myself, inasmuch as among the many distinctions conferred by this College on my grandfather, the late Dr. Henry Revell Reynolds, there was not one he prized more highly than that of having delivered, as he did, before the President and Fellows of this College, one hundred and eight years ago, the Harveian Oration.

MR. PRESIDENT, FELLOWS OF THIS COLLEGE, AND GENTLEMEN,—Sir Thomas Browne has said, in one of his sadder moods, "Our fathers find their graves in our short memories, and sadly tell us how we may be buried in our survivors. ..... The greater part must be content to be as though they had not been—to be found in the register of God, not in the memory of man." This is without doubt true, as he said, of the "greater part," but it is not true of all; for our meeting here to-day is an assertion that there is, at least, one who has not yet found his grave in our vanishing powers of recollection, but whose life, unburied, still breathes in the lives of living acting men.

It is not of the sorrows and "unavailing tears" that were shed, nearly 230 years ago, over Harvey's grave, that it behoves me now to speak; but rather of the fact that although the knells of nearly three centuries have been tolled since he became a part of this College, yet that only last year, on Oct. 18th, our College repaired to his grave in Hempstead to do honour to his memory, and with gratitude and gladness to assert, as we do again to-day, that he still lives "in his survivors," and that, although 306 years have passed since Harvey's life began, he at the present hour is neither dead nor sleeping.

I. Let me ask you, for a few moments, to think over that act of last year. It is not meet to call it a "ceremony" or "performance," for those words may have a doubtful meaning. It was a something done, and that with purpose. It was done with reverence and solemnity, and fitting formal circumstance. The like of it has not often been seen in this country. It was simple, but it told of much complex thought and feeling; it was grave, but it was not sad; it was official, but it was not heartless. It was unnecessary, but it was urgent; it was a duty to the remains of Harvey; but it was also an honour to ourselves. Its voice could not "provoke the silent dust," but its tone could stir the now living "ear" and heart, and quicken the still acting brain.

A. One thing that this College did last year was to show regard for the *bodily* remains of Harvey. There was something of him, that neither painting nor bust could be, which it still wished to cherish. It would try to hold together yet longer the last remnants of what was once the medium through which he saw Nature, and by which he read many of her secrets and revealed them. This wish is natural, and old because it is so. If some Eastern nations, in their great reverence for the soul, have taken means to display their contempt for the body, such peoples have been the exception. The Pyramids, the abbeys, the great burial-grounds in town and country, and the world's great surface, scattered over with its complex or simple tombs, all tell the same story of regard for the dust and ashes of those who have gone. Even if the body have been burned, there has been found the urn to hold together the ashes that the flames have not had power to kill. We may know and admit "to what base uses we may return;" but still we resent or recoil from the degradation. There is a widely spread human struggle against allowing the bodies of those we have known and reverenced and loved to merge into the common earth. We set up our barriers against it; we entomb, and we embalm; we carry on a fight—as strong in feeling as it may be futile in effect, but still a real fight—against physical disintegration. This may be all very foolish and unscientific; but still we will, if we can, keep together something of the individual so long as time and outside forces are not too strong for us; and we utter a parable, as we do so, of our regard not only for the bodies, but for the lives of those individual men, as we tell of, or come to know, them, in the thousand biographies that surround us, each one of which is in its very essence "a feeble struggle with death."

The notion that some spark or germ of life might lie hidden in the ashes that were buried or inurned ("lateat scintilla forsan") may have had much to do with the careful keeping of the ashes in the past; but that is not all. Even if Science could quite put out this faint "scintilla," the human Instinct would remain; and would show itself beside almost every open grave, and sometimes display itself in such solemn and remarkable event as that which took place last year at the tomb of Harvey. It was a graceful and an honourable act of this College to take upon itself the work of "Old Mortality"; and to travel away from its ordinary home that it might chisel afresh the marbles that held the remains of its greatest son; but much more than this was accomplished at that time; for therein was shown a profound and still living affection, reverence, and gratitude for Harvey's life.

B. We again to-day would do homage to the *life* of Harvey; looking at it in its threefold aspect of moral, mental, and active energy. We commemorate his character; his rare combination of faculties; and his work achieved. In him there was that due proportion between all those powers which a great thinker of this generation has regarded as the root-fact of what we call "genius."

We like to picture to ourselves what he, now dead in body, resembled when he lived; how he thought; and about what he thought; how and what he did; in what light he regarded his own work; its relation to the work of others; to his ancestors in science, to his immediate predecessors, his associates, his antagonists, and to those who must come after him. This is as natural as is the regard for the bodily remains; but it is on a higher level. Ancient "songs" handed down, in earlier days, the noble deeds, thoughts, words, and characters of those whom it was a religion to venerate, and whose memory it was a bounden duty to prolong. Our short biographies in epitaphs, our longer biographies in books, bear witness to our dislike to the cremation of ideas and of individual life. There is, doubtless, much disintegration and cremation, of a very healthy sort, always going on among the works of the living as well as of the dead; and very small urns might hold all that is worth keeping of the life-work of many. Still even on these we should like to engrave the names. Perhaps in most lives there are many things that those who lived them might gladly see burned away; but, as Sir Thomas Browne says: "We cannot hire oblivion"; and even if "a wise oblivion be a greater good than a strong memory," we still like to preserve the individuality of the really great ones of the earth, and that with all their faults; and we resent—as we do with quite small people—either a flattering, or disparaging, or a one-sided picture.

Reading Harvey's own writings, his theses, their introductions, their dedications, his disquisitions, exercises, letters, and "obiter dicta," we find him writing, all unconsciously, his own biography; and this confers an unspeakable charm upon his works. He does not tell us of his birthplace, or parentage, or where he was taught, or how he lived—which, thanks to many who have written of these things, from Aubrey and Eat to Willis, we know fairly well,—but he reveals his very soul and life, his method of work, and his mode of thinking about it all; as he spent those long years of research, experiment, discovery, and disputation, together with all the toils of a teacher, and the cares of a busy practitioner of medicine.

Thoughts, discoveries, and lives are quickly disintegrated in this fast-moving, restless age, the rate of whose movement shows acceleration every year; and so there is much individual work that must soon pass into, and be lost in, the sum of common knowledge, and become only the groundwork upon which many a superstructure may be raised; but

the personality of Harvey can never be lost sight of so long as this College stands, and so long as there are men who care to "read between the lines" of his great works, and find in them the portrait of himself.

It is important, in our attempt to realise this portrait, that we should look, in order to appreciate its value, at the background of the time in which the great artist sketched it.

a. Harvey's work of discovery, like that of all great discoveries, into whatever reach of knowledge and of thought they may have broken, was not unprepared. Men were eagerly looking for a light that they felt sure was coming; and there were streaks of dawn in the Eastern sky that led them to find the Man, and the Truth, for which they had been seeking; so that what before had been mysterious was now clear; what had been dark was now illumined; what they had sought for, now they found.

The contents of the "shell," on the like of which Harvey afterwards wrote so much, were teeming with a growing life, that showed but vague signs upon its smooth, unbroken surface; but Harvey broke the shell and there burst forth at once into a seen life a form and meaning for which all the growing processes within that shell were made. There was a new thing, a new thought, a new generalisation. There was the solution of the problem of yesterday, the answered riddle, the platform for to-morrow's work. All honour to those who, toiling slowly in the night, or in the dawn, with its mist and mystery, have yet made some headway forward and upward, and prepared the path for one among them who has shared their labour, their weariness, their disappointments, and their woes, but who suddenly makes, as it were, a leap to a wider range or to a higher level; and thence holds out the hand of strength and fellowship to place them by his side. We honour the worker, wherever he may be, so long as his labour is honest, and is his best; but we have only scant words to express the regard in which we hold the man whose discerning thought and practised skill have lifted all workmen higher; opened to them new ranges for their toil; given them new methods to follow, and left behind him footprints in which some of them may tread as he goes before them, and passes out of sight.

The peoples in this world have been always fighting, from the days of Cain and Abel until now; but yet there is a book, written not so very long ago, with the title of "The Fifteen Decisive Battles of the World," and perhaps time is yet too young for anyone to say that a sixteenth has been fought. But, in the great conflicts of schools of science, of thought, and of discovery with regard to human life, can we put our finger upon even so many as "fifteen" who have made such marks in history that their works have followed them as "decisive battles" gained? If there be, let us gladly thank all the great heroes who led these fights; but, if we look among them, there is no one whom the gathered-up roll of leaders in the world of thought can show who stands on a higher plane than does our own immortal Harvey.

b. If we would appreciate the value of his work, we must read the writings and become familiar with the beliefs current at his time. We may find their echoes in his replies to his opponents, and see quite plainly that the notions he had to contend with were not even "guesses at truth," but often merely pompous assertions of meaningless nothings—"traditions vainly received,"—but yet held with the cramp-like grasp of drowning men who clutch at straws; and yet uttered with the confidence of those who might be supposed, from the loudness of their cry, to be standing firmly and steadily on solid ground. Those who held them were quite incapable of perceiving that they were empty dogmata, without one particle of substance in their constitution, or one square inch of fact upon which to plant themselves. They seem so nonsensical now that it is almost impossible for us to imagine Harvey caring to reply to them. But in his day they were very real, very vexatious, and very hard to bear. To us they are less than distorted dwarfs; to him they were giants whom he had to fight, and with whom he did wrestle hard. As in the glory of an acknowledged triumph, and in the brilliancy of its reward, we may lose sight of the hard fighting, the heavy blows, the waiting, the misrepresentation by enemies, and the desertion by his friends, through which the hero passed, as he fought and won; and as he may himself, when he could say with thankfulness and truth "I have fought a good fight," forget, amidst the acclaim of acknowledged victory, the horrors of the battle field, although the fighting had been very real and the blows were very hard—so Harvey in the lull of opposition seems to have been sometimes at rest and in full enjoyment of the result of his fierce struggle; but while his own conception of the truth was developing day by day and month by month, he struggled hard with the prejudices, the open attacks of jealous competitors, and the scandal of men too dull to originate, too small to think, too dishonest to appreciate, and too weak to yield. When his great discovery saw the day, his soul rejoiced that a new truth was born, and may be he forgot the travail of its birth. But for all that the pain had been very real, and it must have needed all his confidence, all his perseverance, all his energy, and all his patience to have borne the trial without once wincing at the pain

Having said these few things with regard to the preparation made for Harvey by those who had preceded him, and having glanced at the conditions surrounding his active life, let me call your attention to his forethought and instructive provision of some of the results obtained by the labours of those who followed him.

c. Great men have always foreseen much; or, at all events, have said or seen things of which they perhaps did not and could not fully appreciate the meaning. They have scattered germs of thought around them as they passed, through the varying fields of life, to the point or end that their determination impelled them to attain; and some of these seeds of future discovery have "fallen on good ground, and brought forth fruit." There is here some instance of the process of "evolution" in regard to scientific discovery. Harvey reaped much that he had not sown; but he sowed much more which others, after him, might reap.

The evolution of scientific discovery, which is a matter of simple fact, suggests questions which cannot be discussed on this occasion, but which we may do well to consider.

Is there any spontaneous generation of ideas? Can man never do anything outside the lines in which his forefathers thought and reasoned? Can he originate anything, as by a "sport;" or must all that he can think or know be but the outgrowth of the germ thoughts of others; or the mere learning of details quite far away from what we mean by discovery? There is ancient authority for believing that "there is no new *thing* under the sun;" but has there been no new *thought?* If creative energy be limited in matter, is it also limited in mind? If there has ever been an act of "creation," may not such an act be repeated? May I not further ask if, in the words of the really great men, there are so many fertile seeds, which alone are the germs of all that is to come, may we not, instead of adopting hastily, as we sometimes do, the most charming generalisations of the last few years, and saying, along these lines all thought must run, rather adopt the mood of the great scientific poet of Nature, and feel that "seeing of a thousand seeds, she scarcely brings but one to bear," we join him in his doubt, and "tremble where we firmly stood"?

If it be that Harvey was right, which modern scientific observation has shown that he was not, when he suggested that the force which converted sterility into fertility was one that pervaded the whole body,[1] and might last almost indefinitely, then by analogy we might argue that the thoughts of the great discoverers of all past time may have fertilised the whole race of the thinkers that followed them, and of the thinkers yet unborn; and so "discovery" and "originality" are "surds," for they could have had no beginning. To this it may be replied, The modern appliances of scientific research have shown that in some points Harvey had no means of correcting the dicta of his forerunners by his favourite appeal to Nature. Is it not possible that we are as yet unsupplied with all the *apparatus criticus* for determining whether or no there is such a possibility as an original thought?

1. As a means of estimating the largeness of Harvey's mind and the wide range of his vision, and how much there was that he "saw," but scarcely can be said to have "looked at," let me recall to your notice some of the more interesting of his *previsions*, as forming part of the work of the individual whose memory we meet to-day to cherish.

We find him saying, "In general the first processes of Nature lie hid, as it were, in the depths of night, and by reason of their subtlety escape the keenest reason no less than the most piercing eye."[2] In another paper, "All living things ..... derive their origin from a certain primary something or primordium which contains within itself both the

[1] Thesis on Conception.

[2] Anatomical Exercises on the Generation of Animals, p. 225.

'matter' and the 'efficient cause'; and so is, in fact, the matter out of which, and that by which, whatsoever is produced is made."[3] Again, "It appears advisable to me to look back from the perfect animal, and to inquire by what process it has arisen and grown to maturity, to retrace our steps from the goat to the starting-place; ..... so that we shall perceive from what primary matter and from what efficient principles, and in what way from these, this plastic form proceeds ....."[4] Further on, in the same paper, we find him saying, "Man comes into the world naked and unarmed, ... as if Nature had desired that he should be guided by reason rather than be driven by force; therefore did she endow him with understanding, and furnish him with hands, that he might himself construct what was necessary to his clothing and protection. To those animals to which Nature has given vast strength, she has also presented weapons in harmony with their powers; to those that are not thus vigorous she has given ingenuity, cunning, and singular dexterity in avoiding injury."[5] In connexion with this, he proceeds to mention the "ornaments ..... offensive weapons, teeth, horns, spurs, and other implements employed in combat ..... the subject of dispute being no empty or vainglorious matter, but the perpetuation of the stock in this line or in that; as if Nature intended that he who could best defend himself and his should be preferred to others for the continuance of the kind."[6]

In the passages just read, we have, as it appears to me, very much the same ideas as are now conveyed by the terms "protoplasm"; "the relation of man and animals to their environments"; and the doctrine of "the survival of the fittest."

With reference to the significance of the primordium, the protoplasm, as seen by Harvey, let me read another passage from his writings. Speaking of the lowest forms of life known to him, he says, "These have no heart, as not requiring any impeller of nourishment into the extreme parts; for they have bodies which are connate and homogeneous, and without limbs; so that by contraction and relaxation of the whole body they assume and expel, move and remove the aliment.....The whole is used as a heart, or the whole animal is a heart."[7] Further on, "All local motion proceeds from and has its original in the contraction of some part."[8] Here we have, as it seems to me, an account of the simplest form of life; his counterpart of the "amœba," as we may find it described in the most modern and, to my mind, one of the most able text-books of physiology of our day.[9]

2. Another interesting forecast of Harvey's is found in his pointing to the local variations in blood-supply, as being dependent upon the vessels. He describes the extremities as becoming cold, "the nose and cheeks and hands looking blue;"[10] "the fact that in almost every affection, appetite, hope, or fear, our body suffers, the countenance changes, and the blood appears to course hither and thither. In anger the eyes are fiery and the pupils contracted; in modesty the cheeks are suffused with blushes; in fear, and under a sense of infamy, and of shame, the face is pale, but the ears burn as if for the evil they heard or were to hear."[11] "The blood, he continues, "varies greatly (in its rate of force and movement) according to age, sex, temperament, habit of body, and other contingent circumstances, external as well as internal, natural or non-natural."[12] In another place he says, "We allow to the arteries the same motions which we concede to the heart—viz., a diastole and a systole, or return from the distended to the natural state; this much we believe to be effected by a power inherent in the coats themselves."[13]

The direct object of Harvey in this passage is to show that the heart distends the arteries, and that they collapse by their own contractility; but, taken in conjunction with the other passages that have been quoted, it gives a forecast of what is now of such immense advantage to us—viz., a knowledge of vaso-motor change. He perceived the altered calibre of vessels; he saw this in both contraction and dilatation; he referred this to a power inherent in the coats themselves; he pointed out the relation between these changes and external conditions; also between them and emotional excitement or depression, and yet again, to contingent *internal* circumstances.

A hundred and eighteen years after Harvey published his treatise on the Circulation, Robert Whytt, the President of the Royal College of Physicians in the sister city of Edinburgh, wrote these words: "Some grow pale upon anger; which effect may be owing to a spasm, or continued contraction of the small arteries of the face, by which the motion of the blood will be retarded;" and again, further on, "In blushing, the increased motion of the fluids through the vessels of the face is accompanied with a glow;" and yet again, "The sense of cold and shivering is owing to a spasmodic contraction of these vessels, in consequence of that irritation which the nervous system suffers from the febrile stimulus or the beginning inflammation."[14] Whytt does not discuss the circulation of the blood as described by Harvey, he assumes it as an established dogma; he makes no allusion to any anterior suggestion of change in the calibre of vessels; but he seems, chronologically, to hand down the light of Harvey's torch to these more recent days, in which Claude Bernard, Lister, Brown-Séquard, and others have shown, by their researches, the importance of the knowledge that we now possess of the vaso-motor system of nerves, and its effects upon the function and structure of organs; as well as its relation to the doctrine, diagnosis, and treatment of disease.

3. Another illustration of Harvey's speculation and forecasting of ideas comparatively new to us, but occurring to him as the result of his observations on the mysteries of generation, will have much interest now. "Let physicians cease to wonder [he says] at the manner in which epidemic, contagious, and pestilential diseases scatter their seeds and are propagated to a distance through the air, or by some 'fomes' producing diseases like themselves, in *bodies of a different nature*, and in a hidden fashion *silently multiplying themselves by a kind of generation*, until they become so fatal and with the permission of the Deity spread destruction far and wide among man and beast, since they will find far greater wonders than these taking place daily in the generation of animals."[15] We seem to hear in this sentence the thoughts suggested by the works of Pasteur, Koch, and many others; and while feeling with them, with Seneca (whom Harvey quotes) and with himself that there is truth in saying "agents greater in number and of more efficiency are required in the construction and preservation of an animal than for its destruction .....; yet, following Harvey as he followed Seneca in seeing the analogy between the origin of disease and the process of generation, wonder with him as he exclaims, "How long a time is conception to be carried out to parturition—with what labour and tenderness is an infant reared, ... but by what a nothing is it destroyed! It takes an age to establish cities, an hour to destroy them."[16] Such thoughts may lead us to ask ourselves, in face of the recent calamities in Marseilles, Naples, and Toulon, Do these visitations give sanction to the law of the "survival of the strongest," which was the idea of the generalisation of Harvey, or "survival of the fittest," which was that of Darwin. Man dies, nations become extinct, but the microbe lives on. His earnest cultivators provide him with change of scene, of temperature, of food, and all possible surrounding conditions; and we may almost fancy that we hear the well-tended and well-cultivated tyrant singing, to some ghastly accompaniment:—

> "Men may come, and men may go;
> But I go on for ever."

4. It is difficult to refrain from giving yet another illustration of the mode and degree to which Harvey had forestalled or prepared the way for one of the greatest discoveries since his own time—viz., that of the "reflex action" of the spinal cord. In a letter to Horst, written in 1654-55, he says, looking forward to the work of those who were to follow him, and speaking of himself as "not only far stricken in years, but afflicted with more and more indifferent health ..... I do not doubt but that many things still lie hidden in Democritus's well that are destined to be drawn up into the light by the indefatigable diligence of coming ages."[17]

In his Exercises on Generation, after distinguishing be

[3] Thesis on the Uterine Membranes and Humours, p. 554.
[4] Introduction to Exercises on the Generation of Animals, p. 163.
[5] Ibid., p. 425. [6] Ibid., p. 426.
[7] An Anatomical Disquisition on the Motion of the Heart and Blood, p. 76. [8] Ibid., p. 81.
[9] Introduction to Michael Foster's Text-book.
[10] On the Motion of Heart and Blood, p. 69.
[11] Disquisitions on the Circulation of the Blood, addressed to John Riolan, p. 129. [12] Ibid. [13] Page 113.
[14] On the Nature, Causes, and Cure of Nervous, Hypochondriac, and Hysterical Disorders, pp. 64, 221.
[15] On Generation, p. 322. [16] Ibid., p. 322.
[17] Letters to Horst and others, p. 613.

tween the action of the organs of sense and that of the "sensorium commune," he proceeds to say that there are "some actions and motions the government or direction of which is not dependent on the brain ..... that there is a certain sense or form of touch (meaning contact or impression) which is not referred to the common sensorium, nor in any way communicated to the brain, so that we do not perceive by this sense (i.e., impression) that we feel ..... and this sense we therefore distinguish from the proper animal sense." Harvey termed it a *natural* sense, as distinguished from *animal* sense; and he continues, "such a sense do we observe in zoophytes or plant animals, in sponges, the sensitive plant, &c." Using the word "sense" with this interpretation, he treats of many animals, "who are endowed with both sense and motion without having a common sensorium or brain ..... so also [he adds] do certain natural actions take place in the embryo, and even in ourselves, without the agency of the brain, and a certain sensation takes place without consciousness." After speaking of the difference to be observed between "regulated contractions and relaxations to perform any movement, such as progression or prehension," he compares these movements to "the muscles or organs of motion, when affected with spasms or convulsions from an irritating cause," and points out their resemblance to those of "the decapitated cock or hen.....the convulsive movements of the legs and wings, but all confused and without a purpose, because the controlling power of the brain has been taken away."

The explanation of these movements given by Harvey—viz., that they "proceed from the power of the heart, and depend on it," is certainly not true in the sense in which he intended it, but he gives a most interesting illustration of his physiological insight when he says, "We have an excellent example of both these kinds of motion (animal and natural) in respiration. For the lungs, like the heart, are continually carried upwards and downwards by a natural (i.e., unconscious and involuntary) movement, and are excited by any irritation to coughing and more frequent action; but they cannot form and regulate the voice, nor can singing be executed without the assistance, and in some sort command, of the sensorium commune."[18]

In another paper Harvey gives an interesting account of parturition in a "young woman ..... in a profound state of coma, ... but in whom the application of a powerful sternutatory ..... excited convulsions throughout the body, beginning at the shoulders and gradually descending to the lower extremities. As often as the stimulus was applied the labour advanced ..... until the child was born, without the consciousness of the mother, who still remained in a state of coma."[19]

A hundred years after these words were written, Unzer developed the idea still further, in his Treatise on "Animal Nature in Relation to purely Animal Forces, or Vis Nervosa"; and after him Prochaska, in his "Dissertation on the Functions of the Nervous system," defined accurately the limits of the reflective centre; but it was left for Sir Charles Bell, and much more to our own distinguished Fellow, Marshall Hall, to expound the meaning of these movements; to comprehend and reveal the physiology and pathology of action in the spinal cord; to apply this knowledge to the explanation of many diseases, and to devise means for their control or cure. In doing this, he again prepared the way for later researches upon the reflex function, as it affects "local" circulation, and so render possible a knowledge of many of the finest points of neural and vascular action, which we, directly, owe to the labours of those great workers to whom allusion has already been made, when dealing with Harvey's foresight of that matter. Again, in the passage quoted from the paper on Parturition, we find a curious forecasting of the ingenious application of the reflex theory of Hall to the interpretation of the action of the uterus which was made by Dr. Tyler Smith.

In thus sketching some of the motives which led to the event of last year, and also to the fact of our meeting here to-day, it has been my wish to show that we still hold in reverential regard the perishing remains at Hempstead; and also the living force that is with us, now and here; and which comes to us from our knowledge of the individual, Harvey, in his relation to the past, the surrounding conditions of his time, and his outlook towards the future.

C. There is one thing more, however, that this College has done for many years, and that is, by this annual Oration, to *hand down* to coming generations the memory of him from whom we have learned so much, and to whom our debt of gratitude is larger than we, perhaps, as yet can know; certainly much larger than it falls within the range of my powers to express.

We speak of the "immortal Harvey," but in what sense? To many, his own words would convey all the meaning of that attribute. "The eternity of things," he says, "is connected with the reciprocal interchange of generation and decay; and as the sun, now in the east, and then in the west, completes the measure of time by his ceaseless revolutions, so are the fleeting things of mortal existence made eternal through incessant change; and kinds and species are perpetuated, though individuals die."[20] True, grandly but sadly true, and yet our meeting of this day is a declaration that such truth is not universal. Much of his work has become a part of common knowledge; and so will live on in the lives of those who are the "interpreters of Nature," so long as Nature lasts. But the wish that animates us to-day is to hand down to those who follow us some knowledge of the individual to whose life we owe so much, and whose personality we would not "willingly let die." There are many ways in which this may be done, but I will allude to only two.

1. The *names* of some great men have been associated with the discoveries that they have made; and they perhaps are used, many of them, in such familiar way that they convey little or no suggestion of their meaning. In some generation or two yet to come may it not be that the etymology of such words as Fallopian tube, Meckel's ganglion, Bright's disease, Addison's disease, Corrigan's pulse, galvanism, faradaism, an ohm or a volt will have become somewhat obscure? Or if the meaning of such phrases may be found in lexicons, are there many who will try to find out those meanings? It seems to me probable that individuality will not be maintained by such means; and that future students may sometimes be disposed to ask—as I once heard the question put quite seriously—whether or no the "portal vein" was not named after the distinguished French physician Portal!

While the progress of science is constructive of generalisation and so-called "laws," it is destructive, as Harvey says, of the individual life; but yet we give "names" to organs, functions, forces, and shrewd connotations of phenomena, in order—while finding them convenient at the time—to delay, if not arrest, the disintegration of the work of those men whose names we thus hand down to those who follow us.

Do we not think it probable that, as future research proceeds, some of these names, which have passed into many countries and many tongues, may be lost sight of, and be so decomposed that they pass out of common use?

At this hour, and still in the lifetime of our honoured President—whom may God long preserve!—the phrase "continued fever" has passed into practical disuse; and this has been due mainly, if not exclusively, to the industry and genius which led him to disintegrate the name, trace out the causes, and define the maladies that had long passed under that common term.

2. Again, there are certain *days* by which the memory of great men is perpetuated. From very olden times until now; and from the far East to the far West, "days" are set apart for the purpose of recalling individual lives. Ceremonies, of all kinds, have been parts of these human, national, and instinctive acts. They begin in the smallest families with the "birthdays," and they stretch out to the acts of the greatest nations.

This is St. Luke's Day in the calendar of millions, but there are days still set apart compared in antiquity with which the observance of St. Luke's Day is but a modern event. Two hundred and eighty years have passed since Harvey was a member of this College; for two hundred and fifty-six years his great work ("De Motu Cordis et Sanguinis") has been before the world; two hundred and twenty-seven years have elapsed since he was buried in the quiet little church of Hempstead. And yet, only one year has passed since this College removed his remains still "lapt in lead" from the vault in which they had lain so long, and placed them in the safer keeping of new and carefully selected marble.

With us, although it is not so named, this is "Harvey's Day," and three hundred years have passed since he was born. How long this commemoration will continue we

[18] On Generation, p. 432, *et seq.* [19] On Parturition, p. 535. [20] On Generation, p. 225.

cannot tell. Our knowledge of the future, if we have any, is but scant. Who knows whether, when another sixty-nine years have passed, "Waterloo Day" will be kept in memory of Wellington?

No one can answer us in our questions. But this we may do: we may look to the past, and learn its lessons; we may look to humanity, and read its instincts; we may read the record of this College, and know its feeling; and of this we may be sure, that, although Harvey's name may be unknown to many in the days to come, yet so long as disease lasts, so long as the movements of the blood form part of the study of the physiologist and the art of the physician; so long as any further light is to be thrown upon them by cardiograph or sphygmograph, or by any as yet unthought-of method of investigation—so long as "the circulation" is a recognised fact of science, his work will live; and although much of it may lie hidden in the common notions of the future, yet the life of Harvey will be maintained in its integrity by the future Fellows of this College, and the greatness of his character will be brought again and again to light by many who will, more adequately than I can do, discharge the duties of this day.

It has been my wish, in what has hitherto been said, to lay before you some explanation of the motives that bring us together now; and also of those that led this College, last year, to the grave of Harvey. But further.

II. If we would now appreciate the work of Harvey, let us for a moment try to eliminate from our knowledge the fact of "the circulation of the blood," and then imagine ourselves to be face to face with the diseases that we are daily treating; with fever, apoplexy—hæmorrhagic, embolic, or diathetic; with dropsy, with cardiac disease, recent or old; with degeneration of structure, or with functional derangement. It requires some force of fancy to realise what would be our position. The thermometer might teach us much; but it is difficult to see in what way either stethoscope, cardiograph, or sphygmograph could do other than augment our bewilderment. Those who have made out for us the meaning of the cardiac sounds; those who have skilfully constructed apparatus so as to make the heart itself record, in some fashion, its own marvellous movements; and those who have delineated, in some sense, the curve and time-ordered elements of the radial pulse, would all admit that their work was based upon this foregone conclusion, the accepted fact that the blood moved onwards in a circle. They have attained to knowledge that Harvey could not reach; but let me ask could they have known what they now do unless Harvey had raised the platform upon which they stood? "The thoughts of men are widened with the process of the suns;" and, by slow degrees, others might have done the work, or made the discovery, that he made; but the effect of his energy was a grand upheaval of the crusted surface of the past; a Titanic throe that brought to the birth a new and mighty force and fact; and, when some of the dust and boulders had been cleared away, placed all who followed him on a higher plane, and in a clearer light. It is given to the few great men to save the time and labour of the many. They not only take strides that would be impossible for those of lesser build, but they carry with them, over the bridge that they have thrown across the great gulf between the question of yesterday and the answer of to-day, all those who have eyes to see, ears to hear, and hearts to follow.

III. Next, let me bring before your notice some of the main features of Harvey's "character," as this displays itself in his written "work." Chronologically, his character must precede his work; but the former was developed by the latter. These things act and react; moral forces become greater as our toil grows harder; and, in so doing, give not only fresh impulse, but increased strength for work.

Throughout Harvey's writings there is an eminently religious tone; a devout and reverential recognition of God; not only as the great primal, ever-acting force, behind, outside, and before all the works of Nature; but as the Being, "the Almighty and Eternal God," to whom, as he says in his last will and testament, "I doe most humbly render my soule (as to) Him that gave it; and to my blessed Lord and Saviour Jesus Christ."[21]

But Harvey did not let his religious convictions hold him in the tight grasp of what has been termed the "theologic stage" of development; nothing prevented him from seeing all that he could see, and frankly telling all that he believed; and so we find him spurning some of the figments about "the spirits ..... of a sublime, lucid, ethereal, celestial, or divine nature," when they are employed to fill up gaps in the physiology of his day; and comparing those who use them to "the vulgar and unlettered, who, when they do not comprehend the causes of various effects, refer them to the immediate interposition of the Deity."[22]

Harvey, although saying that "the Divine mind of the Eternal Creator which is impressed on all things creates the image of itself in human conceptions;"[23] and, again, that all the arts are but imitations of Nature.....as our reason or understanding is a derivative from the divine intelligence manifested in his works;" and still further to affirm as follows—"wherefore, according to my opinion, he takes the right and pious view of the matter, who derives all generation from the same eternal and omnipotent Deity, on whose nod the universe itself depends;" yet shows his freedom from theologic dogma, and his wide range of thought in adding, "Nor do we think that we are greatly to dispute about the name by which this first agent is to be called or worshipped; whether it be God, Nature, or the soul of the universe—whatever the name employed—all still intend by it, that which is the beginning and the end of all things; which exists from eternity and is almighty; which is author or Creator, and, by means of changing generations, the preserver and perpetuator of the fleeting things of mortal life; which is omnipresent, not less in the single and several operations of natural things than in the infinite universe."[24] We are reminded by this passage of the well-known dialogue, in which Faust, replying to Margaret's examination of his creed, says—

> "Call it what'er thou will—heart, love, or God,
> Or happiness!—I cannot give it name."

And the fair Margaret makes answer—

> "All that is very good and true;
> Nearly the same the Priest says too,
> Only in somewhat other words than you."

But Harvey recurs to the same theme, and after saying that "the most perfect man, whose highest excellence is that he knows himself," adds, "we ourselves, as is seeming in these days (hold) as the Almighty first cause of all things ..... the Creator and Father of all that is in heaven and earth, on whom animals depend for their being, and at whose will and pleasure all things are and were engendered."[25]

"It is true," said he, in conversation with Dr. Ent, "the examination of the bodies of animals has always been my delight; and I have thought that thence we might not only obtain an insight into the lighter (? higher) mysteries of Nature, but there perceive a kind of image or reflex of the omnipotent Creator himself."[26]

If Harvey, though a devout believer in God, was yet free from all the restraints of the so-called "theologic stage"; he also, although a learned and keen metaphysician, had escaped from the trammels of what has been termed the "metaphysic stage." He had "cast them off with as much ease as Samson his green withes." He meets the metaphysician on his own ground with clever dialectic; but he pours contempt on those "who advocate incorporeal spirits, having no ground of experience to stand upon;" adding that "their spirits are indeed synonymous with powers or faculties, such as a concoctive spirit, a chylopoietic, &c., they admit as many spirits as there are faculties or organs." And, before this, with regard to the nature of "the spirits," he says, "There are so many and such conflicting opinions, that it is not wonderful that the spirits whose nature is thus left so wholly ambiguous should serve as the common subterfuge of ignorance. Persons of limited information, when they are at a loss to assign a cause for anything, very commonly reply that it is done by the spirits; and so they bring the spirits into play upon all occasions; even as indifferent poets are always thrusting the gods upon the stage as a means of unravelling the plot, and bringing about the catastrophe."[27]

If it be asked what was, then, Harvey's position, and what was the method he employed? my reply is that he, being one of "the freemen whom the truth makes free," held the position of an observer, a questioner, and interpreter of Nature. In the letter by which he dedicates to the President and Fellows of this College his "Anatomical Disquisition on the Motion of the Heart and Blood in

[21] Will of Harvey, p. lxxxix.

[22] On the Circulation, p. 120. [23] On Conception, p. 582.
[24] On Generation, p. 370. [25] Ibid., p. 402.
[26] Epistle Dedicatory, p. 146.
[27] On the Circulation, p. 115, *et seq.*

Animals," he declares himself "the partisan of truth alone."[28] And throughout all his writings that follow he never swerved from the position he had taken. To him "virtue," as it has been well said by Emerson, "lay in the adherence in action to the nature of things, and the nature of things made it prevail."

The intense love that Harvey felt for Nature led him to choose her as his constant companion, and his guide in the search for truth. There was nothing that she could show him that was too great for him to attempt to understand; nothing too small for him to pass by, or to regard with other feelings than those of affection, of reverence and wonder. The teaching of Nature was to him absolute in its authority. "The facts cognisable by the senses," he say, "wait upon no opinions, ... the works of Nature bow to no antiquity; for indeed there is nothing either more ancient or of higher authority than Nature."[29] Harvey "observed" the facts before him, and he had eyes to see; but not content with the "experiments prepared by Nature," he "made" new facts by his skilful manipulation of the materials that were lying at his hand; and thus he asked pertinent questions, and obtained their answers. He thought about all these things; he reasoned upon them all; he sought and found all the help that metaphysical method and learning of the schools could render him; and, then, he became their "interpreter."

His mode of progression may be defined as "longitudinarian" (if I may use the word, coined some years ago in opposition to one very familiar to us all)—i.e., he looked and worked straight from end to the end. His line was the shortest one that he could draw between the simplest, the first, fact observed and the most remote object of his gaze. He thought in "a straight line;" he never swerved in his forward march; but, as he passed onwards, he saw things outlying on by-paths, but his own force of movement dragged them into his own well-chosen course, and he made them help him on his way. Arrived at his goal, he arranged his materials with care, and proceeded to explain their meaning by a simple inductive process. But, still keeping the same point in view, he approached it from other sides. Sometimes his lines, although converging, did not meet at the point he quite expected. Here his power of thinking outside of and beyond the facts came to help him; he made new observations, new experiments, and at last focused them on a point made bright by the rays of his own genius. Dr. Ent spoke but the truth when he said to the President and Fellows of this College, "Our Harvey rather seems as though discovery were natural to him—a thing of ease, and of course, a matter of ordinary business; though he may nevertheless have expended infinite labour and study on his works."[30]

Harvey made use of working hypotheses; but he never confounded them with either facts, inductions, or laws. He claimed in one of his ingenious theses the liberty which he willingly yielded to others, "to put forward as true (in matters full of obscurity) such things as appear to be probable until proved to be manifestly false;"[31] and after demolishing many theories of others, "prayed for a place" for his own "conjecture until something certain should be established in the matter."[32]

If some fact, apparently opposed to a truth that Harvey believed himself to have established, confronted him in his way, he rode over it, with a force that could only come from the momentum that his strong conviction had given to his movement onwards. For example, he says, "There is one experiment which I would have everyone try who is anxious for truth, and by which it is clearly shown that the arterial pulse is owing to the impulse of the blood. Let a portion of dried intestine..... be taken and filled with water, and then secured at both ends like a sausage: by tapping with the finger at one extremity, you will immediately feel a pulse and vibration in any other part to which you apply the fingers, as you do when you feel the pulse at the wrist." After referring to the manner in which such percussion may be made of use in distinguishing between air and fluid in the abdomen, he continues, "Having brought forward this experiment I may observe that a most formidable objection to the circulation of the blood rises out of it, which, however, has neither been observed nor adduced by anyone who has written against me;" and then he falls back upon his observations which show that, in spite of this seeming difficulty, the circulation has been proved. He says that he had "already satisfactorily replied to this difficulty;" and such is true, inasmuch as he had pointed out that all the blood did not pass through the vessels, but that some of it was detained for nutrition; he had spoken of the contractility of the arteries, and of the impulse wave; but his solution of the difficulty, that he himself alone had seen, was founded on his confidence in the truth of his main assertion.

Boldness was a great feature of Harvey's character when he told any of the truths he knew. "It were," he says, "disgraceful ..... with this most spacious and admirable realm of Nature before us ..... did we take the reports of others upon trust. ..... Nature is herself to be addressed; and the paths she shows us are to be boldly trodden. ....."[33] And again, at a later period, he writes: "The doctrines inculcated on the subject of the humours, and which, as being entertained by the ancients, Fabricius regards as certain truths, requiring no further proofs, are inconsistent and false."[34]

But Harvey, although bold and strong, was meek, cautious, and polite. He preferred "being wise with the few ..... to going wrong with the many."[35] Dr. Ent, in conversation with Harvey, said to him: "You yourself, I well remember, informed me once that you had never dissected any animal—and many and many a one you examined—but that you discovered something unexpected, something of which you were formerly uninformed."[36] He was "greatly afraid lest he might be charged with presumption, did he lay his work before the public at home or send it beyond seas for impression ..... unless (as he says) I had first proposed its subject to you (the President and Fellows of this College), and had confirmed its conclusions by ocular demonstrations in your presence, had replied to your doubts and objections, and secured the assent and support of our distinguished President."[37] Perhaps it might be well if a similar submission were sometimes adopted in this nineteenth century. But so much has been added to what is called our scientific literature during the third quarter of this century, and its now current fourth, that, perhaps, no officer of the College will thank me for the suggestion.

Harvey fully realised the value to be attached to the "conclusions to which others had come who had looked" at facts for themselves; but he adds, "he who truly desires to be informed ..... must be held bound to *look for himself* ..... for it is our duty to approve or disapprove, to receive or reject, everything only after the most careful examination.....to examine, to test whether anything has been well or ill advanced, to ascertain whether some falsehood does not lurk under a proposition.....it is imperative on us to bring it to the proof of such, and to admit it or reject it on the decision of such."[38]

In much of his writing, Harvey was both humorous and eloquent, and he could exhibit high indignation when he dealt with his detractors, yet "to return evil speaking with evil speaking" he held to be unworthy in a philosopher and a searcher after truth." The passage, however, that follows this, shows that Harvey could (as Sir Anthony Absolute did), if he were tempted to do so, use "strong language"; for he comforts Riolanus by assuring him that "it cannot be helped that dogs bark, and vomit their foul stomachs, or that cynics should be numbered among philosophers; but care must be taken that they do not bite or inoculate their mad humour, or with their dog's teeth gnaw the bones and foundations of truth;"[39] but we must remember that this was not said *to* his detractors, but only *of* them, said to his friend Riolanus, and moreover it was said in Latin, and that makes all the difference.

But, with the exception of a few scattered passages of just wrath, Harvey was always dignified, lenient, and calm. He was, as his contemporary Ent said of him, "beyond all praise," and it may be justly repeated of him, when regarding the strength and gentleness of his great heart:—

> "He has outsoared the shadow of our night,
> Envy and calumny, and hate and pain,
> And that unrest which men miscall delight
> Can touch him not and torture not again."

He acquired Fame, which certainly was not to him "the spur" that might his

> "clear spirit raise
> To scorn delights and live laborious days."

[28] On the Motion of the Heart, p. 7. [29] On the Circulation, p. 123.
[30] Epistle Dedicatory, p. 149. [31] On Conception, p. 577.
[32] Ibid., p. 580.

[33] Introd. to Ex. on Gen., p. 153. [34] Of the Humours, p. 557.
[35] Intr. to Ex. on Gen., p. 152. [36] Epistle Dedicatory, p. 146.
[37] Dedication to Royal College of Physicians of thesis on the Motion of the Heart and Blood, p. 6.
[38] On the Circulation, p. 131. [39] Ibid., p. 110.

It may be, as was said of others in his day, that it was "the last infirmity of noble minds," but it was not so with our illustrious Harvey. "Think me not eager," he says in one of his Introductory Letters,[40] "for vainglorious fame, rather than anxious to lay before you observations that are true, and that are derived immediately from the nature of things." Truth was what he sought, and what he found; and if Fame went with him, and followed him to his grave, and waits upon him now, there was no seeking for it on his part; nor could he well have imagined, with all his force of fancy, such a tribute to his memory as that of last year in the churchyard of Hempstead.

Harvey's great achievements were the result of his method—viz., that of observation and experiment. Nature "displays" much; "the heavens declare the glory of God," and she is always "revealing" as she moves, and she is never still; but Nature is ever moving "onwards" to some unknown goal, and at each onward step she, while revealing, "hides," leaves behind in her wake something of the past, which now we cannot see, and presents new facts and new combinations for man—one of her factors—to interpret.

Harvey was one of her keenest and most devout interpreters. To him, as he stood by and listened, the Nature-spirit sang, and with profoundest meaning,

> "So work I at Time's rushing loom,
> And weave the living robe of God."

In reverence Harvey knelt before her; but not satisfied with what he saw and heard, he asked her *questions*—and this, with no notion of confusing her, or misreading what she had already said or written,—for he was just the kind of questioner to ask the kind of question to which she readily gave answer. He examined her "in chief" to find out the *right*; he "cross-examined" her, but in no unfriendly tone, to bring her answer to a "yes" or "no," and so disprove the *wrong*, the untruth which other questioners had placed in evidence. "Nature," said he to Ent, "is the best and most faithful interpreter of her own secrets; and what she presents either more briefly or obscurely in one department, that she explains more fully and clearly in another. ..... Truth," he continues, "scarce wants an advocate."[41] Nature to him was a perfect verity: the one witness that could never be abashed or shaken; the one witness in whom there could be no false way; the one witness who could not lie. There was no need to put her "on her oath," for she, in her prime, had been adjured, by the Most High God, to tell "the truth, and nothing but the truth." This she has always done, and now is doing, and will, as we believe, go on to do.

But can she tell "the whole truth?" Will Nature ever tell or teach us this? I cannot presume to answer the question which yet I dare to ask; but my own conviction is that she neither will nor can do this thing until the last hour of Time has struck, and has ushered in the dawn of that one, long, clear, eternal day, whose "sun shall no more go down," and in whose ever-growing light we may hail the presence of that

> "far-off Divine event,
> To which the whole creation moves."

[40] On Generation, p. 166. [41] Dedicatory Epistle, p. 146, *et seq.*

SANITATION IN SHOREDITCH.—At the meeting of the Shoreditch Vestry on the 15th inst. the sanitary state of six houses, owned by a prominent member of the Hackney Vestry and District Board of Works, was discussed. The sanitary officer presented a statement, in which he said that the houses had been periodically flooded with sewage in the basements for eight years; that repeated notices (nine in number) had been served without avail; and that fourteen letters had been addressed to the owner, several of them expressing the utmost dissatisfaction with his work. In defence, the owner contended that he had done nine-tenths of the work required, and, after a brief but excited debate, the Vestry adjourned without adopting the committee's report.

THE winter course of lectures at the Parkes Museum will commence on Thursday, Nov. 13th, when Mr. G. J. Symons, F.R.S., will give an address on the Relation of Meteorology to Hygiene. On November 27th Dr. Alfred Carpenter will speak on Progress and Co-operation in Sanitary Work. Other lectures will be given by Sir Spencer Wells, Bart., Mr. Shirley Murphy, Mr. Cantlie, and Dr. Crichton Browne.

An Address
ON
CORROSIVE SUBLIMATE AS A SURGICAL DRESSING.

Delivered at the opening Meeting of the Medical Society of London, October 20th, 1884.

BY SIR JOSEPH LISTER, BART., F.R.S.,
PROFESSOR OF CLINICAL SURGERY IN KING'S COLLEGE.

MR. PRESIDENT AND GENTLEMEN,—When, in an address delivered at the opening meeting of last session, I expressed myself in what some of my hearers regarded as terms of overweening confidence in the trustworthiness of antiseptic treatment, I little thought that, a year later, I should have to tell you of failures on my own part; yet such is the case. Several instances have occurred, within the last few weeks, of results deviating from our typical experience in antiseptic treatment, such as I was in no way prepared to meet with, and in one case a fatal event ensued. A lady, on whom I operated for scirrhus of the mamma, with removal of the axillary glands, died of a spurious pyæmia, or a variety of septicæmia, an occurrence such as I have not met with for many years past. We dressed the wound in the usual way. Two days after the operation there was pus already present at the anterior part of the incision. There happened to have been an unusual flow of blood at this part, where we do not as a rule expect much. It is a very unusual thing for pus to appear so early. We used to say, in what I may term the pre-antiseptic days, that, if we operated upon sound tissues, suppuration occurred, provided primary union did not take place, in from three to four days, three days in children, four days in adults, and, perhaps, in warm weather, rather earlier than four days. For pus to occur to the amount of several drachms at the end of two days was therefore very unusual, and some special form of organism, I have no doubt, was present. Micrococci were indeed found after death in abscesses which had formed within the pleura. Nevertheless, though I believe some unusual organism was present, we have been accustomed to consider ourselves free from the apprehension of such ill effects; and though no other fatal case occurred, I am thankful to say, there have been several instances of deviation from the typical course, where, instead of union without suppuration at all, we have had healing retarded by the formation of more or less pus, undoubtedly of a septic character—in the sense in which we now use the term septic—that is to say, dependent upon the development of micro-organisms, although no smell was perceptible. Now, Sir, I need hardly say that one such result as that to which I have referred, a fatal event under circumstances which we have been accustomed to consider absolutely free from danger, made me reflect most seriously; and the other cases, though less disastrous, were also grave cause for reflection.

In looking for the source of our misfortunes, it was to the external dressing that we naturally turned our attention. The experiences of Mr. Cheyne and Professor Ogston indicate pretty distinctly that the means which we ordinarily use are sufficient for the purpose of rendering our wounds free from mischievous micro-organisms at the time we put on our dressings. Both Mr. Cheyne and Professor Ogston have found, by using the most advanced methods of investigation, that if a carbolic acid gauze dressing is changed daily, no organisms are met with in the discharges. That, I say, seems pretty conclusive evidence that the means which we have adopted hitherto for the purpose of keeping our wounds pure, up to the time when the dressings are applied, are sufficient. With regard to our external dressings, our suspicions tended to turn upon the eucalyptus gauze. Eucalyptus oil is undoubtedly a powerful antiseptic, and I have been using it in the form of gauze for a considerable time past. One difficulty with it is its great volatility. In the first instance I employed gum dammar, instead of common resin, in the manufacture of the gauze, because I found that gum dammar held the eucalyptus oil more securely

than the resin does; but gum dammar is an expensive gum, and, after some trials with common resin, I thought I was justified in substituting the cheaper material, and for a while we seemed to get good results with this arrangement. But, as I have already said, more recently the results were not satisfactory. I mean that, now and again, a case occurred which was unsatisfactory. On making inquiry of the manufacturer of our eucalyptus gauze, I found that he had deviated from the instructions which he had received as to the manufacture; that he often left the gauze, for a considerable time after it had been charged, exposed in the air before folding it up, thus affording opportunity for the escape of the volatile constituent in large amount; and in hot weather, such as that during our recent summer, this was more especially apt to occur. We found, as a matter of fact, that the eucalyptus gauze supplied to us had not the softness which it ought to have, caused by the adequate amount of eucalyptus oil. I was thus led to attribute our disasters to imperfection in the manufacture of the eucalyptus gauze.

These circumstances led to a reconsideration of the subject and to an appreciation afresh of the disadvantages of any volatile antiseptic substance. Volatile antiseptics have their own advantages, to which I need not refer, but they have great disadvantages. In the first place, we are at the mercy of our manufacturer. The resin and paraffin so glue the folds of the gauze together, if it is allowed to cool in mass, that it must be opened up while warm, and upon the way in which this is done by the manufacturer much depends as to the quantity of the antiseptic present in the gauze. In the next place a volatile antiseptic, such as either carbolic acid or eucalyptus, has the disadvantage that it requires careful treatment by the surgeon himself. The material containing it must be kept in well-closed metallic vessels; otherwise evaporation soon impairs its qualities. And, in the third place, there is this disadvantage attending all volatile antiseptics, that the longer the dressing is kept upon the body the less efficacious does it become; and who is to say when the time arrives when it has become so inefficacious that it is necessary to remove it? I have been accustomed to regard a week as the limit of the time during which a carbolic acid gauze dressing may be regarded as effectual; but beyond the fact that, with this period, our results were, on the whole, satisfactory, we had no precise grounds to go upon. In that respect a volatile antiseptic must always be at a disadvantage, as compared with a non-volatile one, which will be just as efficacious at the end of a month, or six weeks, as it is when first applied, provided it is not soaked with the discharge.

Salicylic acid is a non-volatile antiseptic; but salicylic acid, as I ascertained from experiments several years ago, is very far from being as powerful in antiseptic qualities as carbolic acid, and therefore I have never ventured to use it for serious cases. Iodoform, while volatile, is very slowly volatile, and, at the same time, so little soluble in the discharges, that in these points of view it seems an admirable antiseptic; but iodoform is by no means a potent agent in its action on micro-organisms. I ascertained some years ago, for example, that, taking a 10 per cent. iodoform wool, the strongest used, and soaking this with milk, the lactic fermentation was only a short time retarded, and in the course of a few days, not only the *bacterium lactis*, but multitudes of other kinds of bacteria were seen, in abundance, in the milk. Again, uncontaminated urine being made to soak such a piece of wool, and then inoculated with putrefying urine, I found that the ammoniacal fermentation was only a short time retarded by the iodoform. Hence I was not surprised to learn that in the practice of Schede of Hamburgh, and others, it had been found that erysipelas occurred under the iodoform dressings. It is remarkable that iodoform has such an effect as it has in preventing putrefaction, but it is by no means a powerful germicide.

But there is another non-volatile antiseptic, corrosive sublimate, to which attention has been more especially directed of late years by Dr. Koch; and here I may be permitted to give my tribute of praise to the admirably conceived and conclusive experiments which he has performed upon this subject. Koch proceeds in this sort of way: he dips a very small piece of silk thread into a fluid containing the spores of the bacillus anthracis, known to be highly resisting to the various agencies inimical to low organisms. After this silk thread has become dry he dips it in the antiseptic solution to be tested, keeping it there for a minute, half a minute, five minutes, or any length of time that is required. He then, by means of water or alcohol, or some fluid known not to influence the vitality of the spores, washes away the antiseptic from the thread, and brings into play his beautiful method of solid culture-material. He places the little bit of silk thread upon a piece of gelatine properly provided with nutritious material, and of course scrupulously pure, and observes, by means of the microscope, whether the spores in the silk thread develop or not. He ascertained by experiments of this character that a solution of only one part of corrosive sublimate in 20,000 parts of water was amply adequate absolutely to destroy the vitality of the spores of the bacillus anthracis, about the most resisting spores that are known. But he found also that as weak a solution as 1 of the sublimate to 300,000 parts of a solution of extract of meat was sufficient to prevent the development of the spores so long as they remained in it; but when the silk thread, having been for any length of time in this exceedingly weak solution, was withdrawn from it, washed, and then placed upon the nutritious gelatine, development occurred as if the spores had not been exposed at all to any injurious agency; and thus Koch established in a most definite manner the distinction, and a very important one it is, between two different effects of antiseptic agents—one, the action by which the vitality of organisms is destroyed; and the other, that by which development is simply arrested, or prevented temporarily from occurring, without the vitality of the spores being interfered with. The former we may term "germicidal action." For the latter, it is somewhat difficult to find a good English term. I happened, I believe, to be the first to use the word "inhibitory" in English physiology, by the advice of my old friend, Dr. Sharpey, with reference to an early paper I was about to publish on what the Germans term the Hemmungs Nerven-System; and as this same word Hemmung is used by the Germans for this checking or suspending action of antiseptics, without destruction of vitality, and as it is very important that we should have some term which distinguishes the one action from the other, I may venture to employ this same word "inhibitory"—a good old English word—for this action of antiseptics, and to speak of their "inhibitory action" as distinguished from their "germicidal action."

Now, these properties of corrosive sublimate were such as no other antiseptic agent had ever been ascertained to possess in anything like such dilute solutions. With regard to our purposes in antiseptic surgery, the inhibitory action of the antiseptic would be sufficient, provided we were satisfied that our wound is left free from injurious organisms, and that the dressing which we apply, itself contains no such organisms still alive. Then, all we require is that the dressing should be able to prevent the development of organisms from without into the discharges with which the dressing may be soaked. That is obvious.

Corrosive sublimate has been used extensively already by our German brethren, chiefly in the form of sublimate wood-wool, as it is called, in which ½ per cent. of corrosive sublimate, with an equal part of glycerine, is mixed with what is termed "wood-wool"—namely, pinewood reduced almost to a state of powder by suitable machinery. This is highly absorbent. It is employed in large masses, and, so used, has given many excellent results. At the same time, it is somewhat unwieldy in its application. Under certain circumstances it is not convenient to have so large a mass as is essential for its safety, and we have also varying reports as to its efficacy; and I may remark that we find some surgeons satisfied with what others would regard as a very mediocre kind of success with antiseptic treatment.

The circumstances to which I referred at the beginning of this address naturally made me turn my attention to corrosive sublimate; and I was desirous, if possible, to use it in a more concentrated form, so that it might be employed in a less bulky fashion; accordingly I prepared a gauze containing, instead of ½ per cent., 1 per cent. of the sublimate.

The first case in which I used it was that of an elderly lady, from whom I removed the mamma and cleared out the axillary glands. I put immediately over the wound a piece of prepared oiled silk, which I dipped in a 1 to 500 solution of corrosive sublimate; then, over this, sublimate gauze, and outside all an abundant eucalyptus dressing. On the following day, when we changed the dressing, I found that, under the oiled silk, exactly corresponding to its extent, the skin was highly irritated, and was covered with small vesicles. I also found that the inner side of the arm, where there was no wound, was in the same state of intense irrita-

tion. I covered the irritated parts of the inner side of the arm with eucalyptus gauze, dipped in a weak solution of carbolic acid, and I applied to the wound the 1 per cent. sublimate gauze without any intervening protective oiled silk. On the following day I found that the little vesicular pustules, which had formed on the first day under the protective, had healed, and that the inner side of the arm also had recovered from its irritation. How were these facts to be explained? I believe the explanation to be this. The 1 to 500 watery solution of corrosive sublimate, prevented by the oiled silk from escaping, had acted as a powerful irritant upon the skin; but when the 1 per cent. gauze was applied directly to the wound, the oozing of albuminous discharge from the pustules and from the edges of the wound mitigated the action of the corrosive sublimate, and so prevented further irritation there. Again, in the case of the arm, what had occurred was, free perspiration had taken place, and the perspiration forming, with the corrosive sublimate in the gauze, a watery solution, had produced irritation where the perspiration was, on the same principle as the watery solution had caused irritation under the protective.

I continued to use a corrosive sublimate dressing in this case. It so happened that there was a very free hæmorrhage after the operation. I never before saw small vessels so atheromatous. We had to tie multitudes of little rigid arteries, and, in spite of this, a considerable effusion of blood took place, and bagged under the skin. She left town with the outer angle of the wound still unhealed, and having the remains of the blood-clot exposed in it; the dressing employed being a piece of absorbent cotton-wool charged with about 5 per cent. of sublimate, secured in its place with collodion, and she came every few days to London to have the dressing changed. On these occasions I found that although the serous discharge had soaked the wool more or less, there was no irritation caused by it; and the blood-clot, in course of time, presented an appearance which I never happen to have seen before. From the epidermic edges of the little wound the epidermis crept over the surface of the blood-clot like the white claws of an animal extending over the dark coagulum. We are familiar with the organisation of the coagulum in exposed wounds, and we are also familiar with the fact that in the course of time the superficial clot may be removed, and a scar found under it, without any suppuration having taken place, or any granulation, strictly speaking; but I never happened to have seen before this formation of epidermis extending over the surface of an exposed coagulum; and the explanation I believe to be that, while a sublimate wool rendered the wound for surgical purposes perfectly aseptic, the albuminous discharge from the wound prevented the sublimate from coming into operation as an irritant, and so we had, in a peculiarly perfect manner, complied with the essential conditions for the treatment of superficial sores—namely, the exclusion on the one hand of septic agency, and on the other of the irritating property of our dressing. I may add that the wound healed without a particle of pus having been formed from first to last.

While this case showed that in the sublimate we had an agent that might give very beautiful results, it also indicated that we were dealing with an edged tool, which, while it might do admirable work, was very apt also to cut our fingers; and the question suggested itself, Was it, after all, possible to use corrosive sublimate in such a way as to get the advantages without the disadvantages? The question, for instance, suggested itself, Suppose the discharge had been more considerable in this case, so as to soak thoroughly through and through the dressings, what might then have been the result? What is the action of the albumen of serum or blood upon corrosive sublimate? How do they act upon each other? It is, I believe, a very general view in the profession, not to say among professed chemists, that albumen forms, with corrosive sublimate, an insoluble, or very sparingly soluble, albuminate; and that this albuminate is inert; whence the efficacy of white of egg as an antidote in corrosive sublimate poisoning. In the fourth edition of Miller's "Chemistry" it is distinctly stated that an albuminate of mercury is formed as a precipitate when a solution of albumen is treated with corrosive sublimate. In the third appendix to Watts's "Dictionary of Chemistry" the albuminates are still spoken of, and, in the intermediate appendices, there is nothing said to interfere with the view expressed in the original work—viz., "Mercuric albuminate is a white substance obtained by precipitating corrosive sublimate with albuminate of sodium (white of egg)." If it were really true that the albumen, acting in a certain proportion on the corrosive sublimate, would form with it an absolutely inactive compound, this would be a very serious consideration for the use of corrosive sublimate in surgical practice. The albuminous (proteid) constituents of the blood are enormously abundant; while the quantity of corrosive sublimate we can use in our dressings cannot be very great. According to the most recent views regarding albumen, its chemical equivalent is about six times that of corrosive sublimate; but the quantity of albuminous material in the serum of the blood is very much more than this in proportion to any amount of sublimate that we could have in our dressings. My first experiment upon this matter was as follows. I made a solution of albumen from white of egg, and then introduced it into some sublimate-wool, the quantity of albumen used being double that which would be requisite to neutralise the corrosive sublimate, according to the view to which I have referred. After leaving the albuminous fluid in the wool for a certain time, I squeezed the wool, and obtained a clear fluid, and I was surprised to find that this clear fluid tasted strongly of corrosive sublimate—an albuminous fluid containing twice the quantity of albumen that was essential, according to the views to which I have referred, for neutralising the corrosive sublimate—had picked up from the wool corrosive sublimate enough to give the fluid that came out a strong taste of that substance. I mixed this liquid with an equal part of milk obtained from a dairy, and the milk remained perfectly free from souring, showing that the albuminous fluid which had come through the wool had antiseptic qualities, as well as the taste of corrosive sublimate.

I afterwards made other experiments with blood itself, and that to which I will now refer was with the serum of horse's blood. My first attempt to obtain serum from horse's blood failed. I wished to get the blood in an aseptic state, so far as one conveniently could without going too much into detail; and I used a glass jar which I had had by me for a long time past, and which had been used for experiments with regard to catgut, and had certain impurities adhering to it which could not be cleaned off. I purified this with 1 to 500 solution of corrosive sublimate, and then introduced into a horse's jugular vein a glass tube purified in the same way, and through this tube drew blood into the jar and allowed it to coagulate, intending to use the serum which should ooze out of the clot as it contracted. I was baffled, however, by finding myself again in presence of a fact which I described some years ago, where antiseptic precautions had been used in obtaining blood; the clot never contracted.

When I first witnessed this fact, having found the novel procedure of antiseptic precautions in taking blood followed by the novel phenomenon of failure of the clot to contract, I was disposed to attribute the one to the other, and to imagine that the destruction of the septic organisms was in some way or other the cause of the absence of the shrinking. Then it was suggested to me that Liebig had shown, in his "Letters on Chemistry," that if glasses are heated they lose for a time their usual property of causing certain phenomena of crystallisation; and, as my glasses had been always purified by heat, there might be some peculiar physical property in the glass to account for the circumstance. But here we find the same phenomenon cropping up, although the glass had not been purified by heat, and although it had not even a clean smooth surface.

It may be interesting to you to observe that, though the antiseptic precautions used were but of a rough kind, still no genuine putrefaction has occurred, in spite of the hot weather, in this blood taken on September 9th; but the remarkable fact to which I wish to direct your attention is that, while the buffy coat peculiar to horse's blood can still be recognised, it has entirely failed to contract, and is to be seen adhering to the surface of the vessel. I must confess it seems to me barely conceivable that the development of organisms can be the cause of the contraction of the clot under ordinary circumstances, considering how soon that contraction begins to come into play. Yet to what else are we to attribute it? It is to me, I confess, a perfect mystery. At the same time, to us surgeons it must be admitted to be highly interesting, because in antiseptic surgery, at all events, this is the very condition of things in which we find the clot. We do not find a clot shrink away, or tend to do so, from the sides of the wound, but it retains its original bulk until it is gradually diminished by absorption and organisation; and if a clot forms in the vicinity of a ligature upon a large artery, it seems very important that it should not shrink away from the sides of the vessel, but

remain there in its original dimensions to serve its purpose of a plug.

On the same occasion on which I obtained this blood, I received a portion into another vessel, and stirred it during coagulation so as to remove the fibrin. This whipped blood answered my purpose perfectly, because by virtue of the remarkable tendency that the red corpuscles of the horse's blood have to aggregate into dense masses, and so fall rapidly in the course of a short time, the mixture of serum and red corpuscles was found in three hours to consist of about one-half corpuscles and one-half serum, and therefore I could use the serum for the purpose of my experiment.

The experiment was performed in the following manner. A glass tube such as this (three-quarters of an inch in calibre and three inches in length), open at each end, was packed with a certain weight of antiseptic dressing to be tested, say sublimate wool, occupying about two inches of the tube; then a weighed quantity of serum, just enough to to soak the wool, was poured in at one end of the tube held vertically; it was then left for about half an hour in a warm box, at the temperature of the body, after being put into a stoppered bottle to prevent evaporation; then the serum and the sublimate in the dressing having been allowed to act upon each other for about half an hour, a little more serum was poured in, the tube being in the same position as before. The result was that a certain quantity flowed out below, and was received into a test-tube. The lower part of the wool and the serum in the test-tube were next inoculated with putrid blood, diluted with ten parts of water, to prevent the smell being so great as to make you think that putrefaction existed when none had occurred, a tenth of a minim being applied by means of a suitable apparatus. Lastly, the wool-tube in its stoppered bottle, and the test-tube with a cap of thin mackintosh tied over its mouth, were replaced in the warm box. The object of this was to ascertain whether the dressing, after having been thoroughly soaked through and through with serum, would resist a potent septic inoculation; and also whether the fluid that had come through the dressing was itself an antiseptic fluid. If such should prove to be the case, we should have all the requisites we could desire for an antiseptic dressing. It was a very severe test, for it is comparatively rarely that we have such intensely putrefying substances applied to the surface of our surgical dressings, and it is also comparatively rarely that the dressings are soaked so very thoroughly with blood or serum.

I used three kinds of sublimate-wool, one containing 1 per cent.—twice as much as there is in the wood-wool—one 5 per cent., and the other 10 per cent. I have mentioned that it was on September 9th that this was done, and all these three wools remain perfectly pure, so far as the sense of smell can detect, to the present time. The bottles are before you, and even in that containing the 1 per cent. wool you will find nothing but a smell something between mortar and the inner bark of some trees, which is the immediate effect of the action of corrosive sublimate upon the serum. The serum that had come through the dressing equally resisted the inoculation. By means of a process of testing with which I will not now trouble the Society, I could ascertain pretty exactly the proportion of corrosive sublimate present in these liquids that had thus come through. The corrosive sublimate made the liquids turbid in the case of the wool with stronger proportions; but in the case of the 1 per cent. it had not rendered the serum turbid, and therefore I was able, without the use of the microscope, to judge by the existing transparency, and also by the presence or absence of scum on the surface, whether any organisms did or did not develop; and none whatever occurred. As regards the strongest wool, the liquid which came through contained about one part of corrosive sublimate to 160 parts of the fluid. I tasted this, and found it had the peculiar metallic nauseous taste of corrosive sublimate. I also mixed some of it with five parts of milk got from a dairy, and, therefore, as we know, teeming with bacteria of various kinds. Here is the milk, still fluid after the lapse of nearly six weeks, although when it was mixed with the serum it was already advancing towards septic changes. The first of those changes—namely, lactic fermentation—has been prevented, otherwise the milk would not have been fluid, as you see it to be. There is not the slightest smell either of the lactic or butyric fermentation, but only that which Pasteur pointed out to occur as the result of oxidation of the fatty matter of milk—a little odour of suet. That is exactly the smell that you have in boiled milk kept for a few weeks in an aseptic state.

Thus, Mr. President, we had evidence that corrosive sublimate forms, with the serum of the blood, a material whether we call it a chemical compound or not, which retains the properties of the corrosive sublimate, both as to taste and as to antiseptic virtue. Now, it seems to me highly unlikely that both the characteristic taste of corrosive sublimate and the antiseptic virtue would be retained if the corrosive sublimate were decomposed in any way; and, therefore, I venture to think, speaking with all deference to chemists, that we have not here a chemical combination in the ordinary sense, but an association of particles, such as occurs in solution; not an albuminate of mercury, but an albuminate of sublimate, if I may use such an expression: a loose association of particles of chloride of mercury with albumen. If such be the case, I need hardly point out how important this may be with reference to the surgical uses of corrosive sublimate. The discharges, in passing through a sublimate dressing, may acquire from that dressing chloride of mercury, still in solution, though associated with albumen, and still retaining antiseptic properties.

I may conclude this matter of the relations of the blood-serum to corrosive sublimate by showing some illustrative specimens. I found that if serum is mixed in small proportion with corrosive sublimate in a mortar, the result is the production of a thick opaque, slimy material; but if you add a little more, and still a little more, you get this material redissolved in the serum, until, if you use as much as 150 parts of serum to 1 of sublimate, you get a clear solution. This test-tube contains serum from the blood of a horse mixed with one-two-hundredth part of corrosive sublimate. You will see that there is no precipitate here at all. This other test-tube contains the same amount of corrosive sublimate (1 to 200); but the liquid mixed with it, instead of being serum simply, is serum with an equal part of distilled water; and here we have what the chemists describe as a precipitation of the albumen, the upper part of the liquid being clear. Now, this upper part of the liquid contains exceedingly little corrosive sublimate; it has almost all gone down with the albumen; but, if we take some of this precipitate itself and mix it with more serum, it will be redissolved by that serum. This afternoon I mixed some of this precipitate with some serum already containing one-four-hundredth part of sublimate, and the result has been the clear solution that you see here. This albuminate, if we are to call it so, is therefore highly soluble in blood-serum, and that is one important point to which I wish to direct attention.

While the sublimate is thus, so to speak, intact when associated with albumen, it is rendered very much milder in its action. I took some of the serum which had come through the 10 per cent. wool, containing one part of corrosive sublimate to 160 parts liquid, soaked a piece of lint with it and applied it to my arm, put over this a piece of thin mackintosh cloth to prevent evaporation, and secured this with rubber adhesive plaster. I retained this in position for twenty-four hours, and on its removal found an absolute absence of any irritation, although my own skin is pretty sensitive. We have seen how, in twenty-four hours, 1 part of sublimate to 500 of water already produced pustules; yet here 1 part to 160 of serum produced no irritation whatever. The association, then, of the albumen with the corrosive sublimate greatly mitigates its action, and makes it much less irritating. Thus we are able to understand how the discharges coming from a wound soaking a sublimate dressing may not cause irritation, although the dressing may contain a large proportion of corrosive sublimate. Such being the case, I hoped that we might be able to use corrosive sublimate in pretty strong proportions in a gauze for the dressing of wounds; and therefore, not very long ago, in a case of psoas abscess, I applied gauze containing 5 per cent. of corrosive sublimate with a little gum Arabic to prevent the crystals flying off. On changing the dressing the following day, I saw in the vicinity of the wound all perfectly satisfactory; but the discharge having gone principally backwards, I found that the further I looked towards the sacrum, the more and more evidence of irritation did I find, until over the sacrum itself, beyond the edge of the dressing, there was absolutely a large vesicle. How was that to be explained? The expanation I believe to be simply this. If an albuminous discharge travels through a dressing containing corrosive sublimate only, it, in the first instance, forms, with the corrosive sublimate, a non-irritating albuminate, so to speak, but leaves

more or less of its albumen behind in the form of a precipitate. As it goes further, and meets with more corrosive sublimate, it leaves more albumen behind, and so, as it advances, becomes more and more nearly a watery solution of corrosive sublimate, producing the highly irritating effects with which we are familiar. This result I confess made me at first despair of using corrosive sublimate in anything like a concentrated form as a surgical dressing. But it afterwards occurred to me, might it not be possible, as corrosive sublimate associated with albumen is so little irritating, to associate albumen with the corrosive sublimate in the dressing? Where should you get your albumen from? Well, we may get it from horse's blood. There are in every town horse-slaughters. If you stir horse's blood while it is coagulating, you may get from one animal some gallons in the form of serum. There is the albumen for you, if it only can be made useful. There is a horse-slaughterer in the north of London who will let us have this serum absolutely for nothing; it is simply a useless material to him. This being so, I ascertained in what proportions the serum and the sublimate might be mixed, so as to give a workable article; and I find that you may employ them in almost any proportions. If you use a very small amount of serum, you get, indeed, a thick opaque substance; but this can be perfectly well blended with gauze or other materials. Here is a gauze which has been charged with serum containing 1 part of corrosive sublimate to 75. Two and a half parts of the liquid are required for one part of the gauze; and you will see that this is not at all an unpleasantly constituted substance, physically. It is destitute of odour; you will scarcely perceive it to the taste; and you would hardly believe that it contained nearly three parts per cent. of corrosive sublimate.

The corrosive sublimate is so intimately blended with the serum that when it dries (as seen on this plate of glass) no separation of crystals takes place. Whether we use 1 to 100, 1 to 70, 1 to 50, or even 1 to 30 parts of blood-serum, they are perfectly amalgamated, and therefore, from a gauze like that, no corrosive sublimate can fly off. It can be manipulated as you please. And as applied dry to the skin, it is absolutely unirritating. If, however, such a gauze is torn, it gives off a dust which irritates the nostrils. It is therefore better to cut it with scissors. Then, in the next place, it is unirritating as acted on by the perspiration. If water is made to act on sublimated serum dried, it does not redissolve it, as serum does, but it renders the mass opaque, the water being only partly absorbed into it; and the water which remains unabsorbed contains exceedingly little of the corrosive sublimate, which is almost all retained by the albumen. Hence, when perspiration soaks into such a dressing, though it moistens it, it does not produce irritation. I made some gauze with serum so strong with corrosive sublimate as to have 1 part to 30, which implies more than 6 per cent. of corrosive sublimate in the gauze. I moistened a piece of this with distilled water, and fixed it on my arm for six hours in the manner before described; and, when I removed it, I found the skin free from irritation. Thus, you will observe that, by associating albumen with the corrosive sublimate, we seem to be able to get rid of its irritating properties.

But the important question arises, Does corrosive sublimate, when thus associated with albumen, retain sufficient antiseptic virtue for surgical purposes? The method of experimenting which I have described is adapted for testing the efficacy of any antiseptic dressing, and I have used it for various others besides sublimated ones. I have employed it with serum for salicylic cotton-wool, for iodoform cotton-wool, for eucalyptus gauze, and for carbolic gauze. I have mentioned that the test is an exceedingly severe one, and I find that after the lapse of a few weeks, salicylic wool soaked with serum and inoculated as above described stinks, and the same is the case with iodoform wool; the eucalyptus gauze, however, if freshly prepared remains pure, as also does carbolic gauze. We have seen that the 1 per cent. sublimate-wool resisted, still more the 5 per cent. and the 10 per cent. In accordance therefore with our previous experiments with iodoform and salicylic acid, they did not stand the test as well as carbolic acid, or eucalyptus, or the corrosive sublimate. But we get a different result if, instead of using serum of blood, we use serum mixed with blood-corpuscles, such as we readily get from the cow, in which the corpuscles do not aggregate so closely as in the horse, but remain suspended in the serum. I need not, of course, tell any members of this Society that the corpuscles are enormously richer in proteid substances than the serum is, so that serum and corpuscles contain about two and a half times as much of proteid material as the serum does; and as albuminous materials mitigate the action of the corrosive sublimate, they cannot fail to interfere more or less, also, with its antiseptic action; and when we use serum and corpuscles, instead of serum only, we find that the sublimated wood-wool (which I should have said did very well with the serum so far as the sense of smell indicates) fails completely. The 1 per cent. sublimate-wool failed also; the 10 per cent., however, stood the test perfectly, even with blood in substance. Now, as to our gauze made with albumen associated with the sublimate, the sero-sublimate gauze. Such a gauze prepared with 1 part of sublimate to 100 of serum stood the test absolutely when tried with serum. It therefore proved itself superior to salicylic and to iodoform wool. But with the blood in substance, how does it behave? The tube in this bottle contains a portion of the gauze treated with the cow's blood, serum and corpuscles, and inoculated nearly a month ago in the same potent manner to which I have referred, and you will observe that it has no putrid odour. Really, then, this sero-sublimate gauze seems to stand the test completely. I may say that, when tried with corpuscles and serum, our best eucalyptus gauze failed utterly, so that everything failed that I have tried except the stronger sublimate preparations and the carbolic acid gauze.

Then the question comes, How far may we go in the strength of our sublimate combined with the albumen without causing irritation? During the last three weeks, my cases at the hospital have been dressed with this material. We have used the kind of gauze which you have in these bottles, made with 1 of sublimate to 100 of serum, and also one made with 1 of sublimate to 50 of serum. We find that the 1 to 50, in the majority of cases, has caused no irritation whatsoever, but in a very few it has caused some irritation, which, however, has disappeared, and the sores caused by the 1 to 50 have healed when the 1 to 100 has been substituted for it. Therefore it looks as if we were very near our limits, as if that prepared with 1 of sublimate to 100 of serum was trustworthy and unirritating, even to all skins, and that prepared with 1 to 50 was unirritating to most skins. Now, there is this to be observed for our comfort, that the discharge both from wounds and from abscesses antiseptically treated is a serous discharge, not a bloody one, except in the case of wounds during the first twenty-four hours; and even in the first twenty-four hours, except in cases in which the dressing has to be taken down for reactionary hæmorrhage, the blood is always more or less diluted with serum. If, therefore, we have a dressing which has stood our severe test with serum mixed with the full amount of corpuscles, we are surely not wrong in regarding it as trustworthy.

Last Friday I amputated at the hip-joint in a boy twelve years of age, on account of a sarcoma of the lower half of the femur. The wound was exceedingly vascular, and there was a great deal of bloody oozing in the first twenty-four hours, but very little escaped externally, because this gauze absorbs very much better than our carbolic acid or eucalyptus gauzes do, containing as they do resin and paraffin; and I would strongly recommend that during the first twenty-four hours this gauze should be used in abundance, in at least sixteen layers. It is now three days since the operation was performed, and, from the perfectly normal temperature and returning appetite and strength, I think we may be satisfied that the boy is already out of risk of septic complications. And this, you will observe, is a very testing case.

I may mention one other case, that of a boy six years old, from whom, nearly three weeks ago, I removed a portion of a rib for the purpose of allowing free drainage to empyema. We let out thirty ounces of thick odourless pus, and a great quantity came out afterwards. He has been dressed with sero-sublimate gauze; and he is one of the instances in which gauze prepared with the 1 to 50 serum caused irritation which disappeared under the 1 to 100.

In him we have witnessed the beautiful course which, I believe, we can only see under antiseptic treatment efficiently managed, of no more pus formed after the first pus has been evacuated, nothing but a serous oozing rapidly diminishing; and it was astonishing to see, on coming back after a fortnight's absence, how plump the emaciated little fellow had become. And the serous discharge is now so slight that I

believe it would be already safe to remove the drainage-tube. This case, I think, proves that our dressing is aseptic, that the germicidal properties of the corrosive sublimate have come into play in the preparation of the dressing, so that any injurious organisms which existed in the blood or in the gauze before they were brought into preparation, have been destroyed; because, if there had been merely the inhibitory influence of the sublimate upon the organisms, the serum pouring out from the pleura, and washing away all the antiseptic in the vicinity of the wound, but leaving the organisms lodging among the fibres, then we should have had putrefaction, or other disturbing causes, showing themselves. No such thing having occurred, this case seems of itself sufficient evidence that our dressing is really a safe one, in so far that it contains no living organisms of importance to start with.

I have here a sample of a very cheap fibre, sent me from the south of France, prepared with this sublimated serum, and then teased out, showing that we may use this material for charging various fabrics. This is highly absorbent; and I may remark that, if we have a very highly absorbent dressing, we may, and must, use a larger proportion of the sublimate. A gauze will absorb only about three times its weight of liquid; cotton-wool will absorb ten times its weight; and therefore you observe, when the one dressing is saturated it has three times as much of the liquid in it, and thus has the sublimate three times as much diluted. Being so much diluted it will be in proportion less irritating, but the stronger proportion is required to make it safe unless you use it in a very large mass. I believe the French charpie made of old rags, or even old rags themselves, might be quite well prepared with sublimated serum. I have here some rags which have been so treated, and which are quite absorbent, and therefore the dressing promises to be a very cheap one. If the serum is treated with a certain proportion of sublimate, not sufficient to make it solid, it may be kept for any length of time. For aught I know, this sublimated serum may come to be an article of commerce, which may be used in hospitals, or even in private practice. I also think it possible that a material of this kind, dried and reduced to powder, may come to be used for the purpose of mixing with vaseline for an antiseptic ointment, or even for dusting in, under certain circumstances, among our dressings.

I regret that time has not allowed me to bring this matter more completely to an issue as regards its practical application. At the same time, though the subject is, to a certain extent, immature, I ventured to hope that the interest of some of the points to which I have referred might justify me in bringing it before your notice.

ON "LAWN-TENNIS LEG."

By WHARTON P. HOOD, M.D.

THE great popularity of lawn-tennis has given the above name to an accident which has long been known to surgeons, but which the particular kind of effort required by the game has of late years rendered much more frequent than heretofore. It consists of the rupture of some portion of the muscular or tendinous structure of the calf.

Several years ago, when writing for THE LANCET some papers on so-called "bone-setting"—papers which were afterwards republished in a volume,—my attention had already been called to the very protracted disability by which this injury was sometimes followed when treated in the ordinary way. The Hon. Spencer Ponsonby Fane kindly furnished me, for the work in question, with the particulars of an accident of the kind which happened to himself in November, 1864, and by which he was crippled until June, 1866, a period of nineteen months. Mr. Fane then came under the care of the late Mr. Hutton, who told him that his "ankle was out," and who performed an operation for the purpose of "putting it in." This operation immediately cured his lameness; but when the details first came to my knowledge, I was unable to explain what had occurred. By the light of subsequent experience I was led to believe that the elevation of the heel and extension of the foot, which followed the injury, had caused the weight of the body to be thrown upon the cuneiform bones, thus producing irritation which led to the formation of adhesions, and that these adhesions were broken through when the imaginary dislocation was reduced. However this may be, it is certain that the patient was cured. I need hardly say that the duration of disability in Mr. Fane's case was exceptional; but every surgeon knows that weeks, or even months, may elapse before recovery from a similar injury is complete. I was led by this consideration to adopt a method of treatment by which I hoped to obtain better results, and it has been so successful in my hands, that after a large experience of its efficacy I am desirous to make it known to the profession. It is based upon two essential points—namely, adequate support for the structures of the calf, coupled with immediate and uninterrupted use of the limb.

As soon as possible after the occurrence of the rupture, the patient should be placed upon a sofa, with his injured leg raised above the level of his head; and should be kept in this position for five minutes. This is an important preliminary, because the position alone will be sufficient to empty the limb of superfluous blood, and thus to reduce the swelling which is commonly present. A calf which is much enlarged, and very hard, will frequently return to its natural dimensions within the time specified; and the patient will at once obtain relief from the oftentimes distressing feeling of tension. Moreover, if the elevation of the limb be neglected, the plaster next to be described will soon be loosened by the subsidence of swelling, and will require to be replaced within a few hours. After a sufficient period of elevation, and while the leg is still raised, strips of adhesive plaster, each an inch and a half in width, and of length adapted to the size of the limb, should be applied from two inches above the ankle-joint to the thickest part of the calf, somewhat as strapping is applied in the treatment of chronic ulcers of the leg. When the plaster is well adjusted, it disperses the effusion of blood and lymph and restores the natural flow of the circulation; while at the same time it holds all the muscular and tendinous structures firmly together, and practically converts the sound portions into a splint for those which are torn. As soon as the plaster is applied, the patient should be directed to walk about the room and to place the heel firmly, or at least fully, on the ground at each step. For the first dozen steps he will probably hesitate, and will maintain more or less of the limp with which he entered; but after a short time, finding that his pain is diminished, or possibly removed, he will gain confidence, and will walk with a pride in his own performance which is very interesting to witness. Until this point is reached, he should not be suffered to depart; for, if he does not walk properly before he leaves the surgeon, he will hesitate still more when alone, and will be likely to return to the ungainly progression which he exhibited at the commencement of the interview. Success in walking, in the first instance, will depend largely upon the temperament of the injured person. A resolute man, who believes in his doctor, will walk at once, while a more timid patient will require coaxing and urging. The chief trouble will be with the sceptical man, who has his own "views" about the injury, and who will express them in such questions as "Well, but do you not think there is a risk of inflaming my leg?" "Shall I not make the internal wound larger?" and so forth. With reasonable care neither to jerk the leg nor to twist the ankle on uneven ground the patient, as soon as the plaster is applied, may walk about as usual. By the third day the plaster will be somewhat loose, and the patient will say that he is not quite so comfortable as before, and is less inclined to trust his leg. The strapping should be reapplied, and he will at once feel more secure and better able to walk. Four days may elapse before the next strapping, which may be left untouched for a week, but the application should be continued at intervals until the patient is quite convinced of his ability to do without it. On the first occasion very little pressure is desirable, and mere laying on of the plaster will be sufficient. Subsequent strappings should be tighter, but never so tight as to produce a sense of unpleasant constriction, a rule which must be especially borne in mind in applying the first and last piece. The amount of walking should be increased daily, and after the third day the patient should go up and down stairs freely in the usual manner. Until then his ascents and descents may be infantile.

The above described method of treatment is more successful with, and as a rule is more necessary for, the old or elderly than the young. With the latter, for obvious

reasons, the accident is of rare occurrence. When it does occur the sufferer is eager to get back to his games. He makes light of his pain, has no fear of inflammation, covertly uses his limb, even in defiance of medical orders; and, as his cure is rapid under any treatment, he is usually believed by his surgeon to have sustained only a slight tear. The elderly man, on the other hand, is probably inclined to think that he has been foolish at his time of life, and with his muscles out of training, to engage in a game requiring active exertion. He regards the accident as a lesson in prudence, is fully alive to the value of a sound limb, and sets himself to nurse the injury, with the idea of obviating a wholly imaginary danger of inflammation, or of retarded union of the ruptured parts. By strapping and compulsory exercise he is, in fact, protected against himself. In addition to the rapid cure which it effects, to the prevention of loss of health from want of exercise, and of loss of other kinds from absence from business or occupation, my method has the further advantage of diminishing the liability to recurrence of the accident. The prolonged rest and raised heel, which have generally been enforced in such cases, have a tendency to produce contraction, or a cramped or shortened condition, of the whole of the muscles of the calf, and thus to permit the torn fibres, when united, to be shorter than those around them. At the termination of a case treated in this manner, when absence of pain indicates cure, the patient is able to walk with comfort on even ground, but has acquired the trick of doing so with an almost imperceptible degree of flexion of the leg. When called upon for any extra exertion he is apt to be reminded of his old trouble by a sensation of tearing, or an actual tear, at the seat of the former rupture. This sensation may arise from simple stretching of the cramped muscles, and is then only transitory; but sometimes, from perfect extension being suddenly attained, the contracted portions are compelled to bear the entire strain of the movement, and actual rupture may be the result. In either case the pain is looked upon as evidence of a recurrence of the accident, and a further period of rest is enjoined. All this may be avoided by insisting from the outset that the heel shall be placed fairly upon the ground whenever exercise is taken.

The foregoing observations are founded upon the experience of the last fourteen years, and upon a large number of cases; but this year, among many others, I had what I may fairly call a typical example of the injury in the person of Dr. W. G. Grace, the justly celebrated cricketer. He came to me on the 13th of June, having had the characteristic feeling of having been smartly struck on the calf on the previous evening while playing at Lord's. He was compelled to discontinue his innings, having made sixty runs. He limped into my room, expressing the opinion that "he was done for the season." On passing a finger down his calf a distinct sulcus could be felt, and his impression was that "he dare not put his heel to the ground to save his life." I strapped up the leg, and he walked away, putting his heel fairly to the ground. The next morning he continued his innings, having some one to run for him, and he added twenty-four runs to his overnight score. He did not cease playing cricket, and an extract from a letter from him, dated July 13th, will finish what I have to say about his case. "You will be glad to hear that my leg has been improving ever since, and is, in fact, well. The accident happened at Lord's on June 12th, and I consulted you the following morning, and found immediate relief from your treatment. You strapped it up from time to time, the last time on June 26th, on which day I played at the Oval against the Australians, and ran for myself 107 runs. My leg was no worse after this, and has been improving every day. I felt myself quite well at Manchester on July 10th, so my leg was cured under the month. I never rested my leg a single day."

The more speedily the strapping is applied after the injury the better will be the result, a point which is well illustrated by the following case. I was playing lawn tennis with a friend whose weight is fifteen stone. I served a ball to him, and he ran forward to take it, but missed it; and then stood still on one leg, like a large bird roosting, gazing round the court. Seeing him remain in this position, I asked what he was looking for. His reply told the whole story. "Some one threw a stone or a ball at me, and hit me on the calf; and, by Jove, it hurts." He went home with me, I strapped up his leg, and in three weeks I had the pleasure of playing three "sets" with him. He had all his customary activity, and, like Dr. Grace, he had not laid up for a single day.

Seymour-street, W.

ON THE PATHOLOGICAL IMPORTANCE OF FLEXIONS OF THE UTERUS.

BY G. ERNEST HERMAN, M.B. LOND.,
OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL,
LECTURER ON MIDWIFERY, ETC.

(*Continued from p. 675.*)

2. *Post-mortem Evidence.*—There is proof that flexion of the uterus may prevent the exit of fluid—(*a*) if the uterus be fixed in the bent position by adhesions, and (*b*) if the wall of the uterus be thinned by senile atrophy; conditions which impair the contractile power of the uterus. I have in the papers to which Dr. Hewitt refers quoted the cases which support these two propositions. Dr. Hewitt complains that I have slurred them over; but I have admitted there, and would here again express myself convinced, that there is sufficient evidence in favour of these two propositions. There is another case on record which bears on the question, and which I infer Dr. Hewitt thinks important, while I do not. It is very briefly reported by Scanzoni; it is mentioned only, not described. Scanzoni expresses strongly his opinion that flexions *per se* cause no trouble. If this briefly mentioned case were really conclusive or important, surely it would have influenced the opinion of the distinguished writer who saw and examined it. In the absence of a description so detailed as to enable the reader to draw inferences for himself, I think we are not justified in assuming that the case negatived the view taken by the reporter; and we must assume this, if the case is to support Dr. Hewitt's views. Beyond these cases, there is no post-mortem evidence that so far as I can discover has ever been adduced to show the correctness of the diagrams which appear in many books (Dr. Hewitt's among the number), representing the uterine canal sharply bent, narrowed at the point of flexion, and the uterine cavity dilated above the constriction. On the contrary, every specimen that is to be found in museums (except those in which the uterus is fixed by adhesions) exhibits the canal bent in a gentle regular curve, without any constriction, and with the walls of the uterine cavity quite as close together as they are in uteri which are straight. The importance of post-mortem evidence in the controversy relating to the effects of uterine flexion depends upon the view which it is sought to substantiate. The absence of post-mortem evidence does not prove that flexion never causes dysmenorrhœa; and therefore, if it be only maintained that flexion sometimes and rarely produces dysmenorrhœa, this view is not contradicted. But if, as Dr. Hewitt believes, flexion is the cause of the vast majority of functional uterine disturbances; if the diagrams in his book represent conditions present in the majority of women who consult medical men for dysmenorrhœa; then I think it astonishing that morbid anatomists should never find anything to show the past or present existence of such common changes; and I think the absence of specimens illustrating these changes is a strong presumption that the changes are at least not so common as they are supposed to be, if they even exist at all. There is a condition demonstrable anatomically upon which I have laid stress,[1] but my references to which Dr. Hewitt dismisses as mere trifling—viz., the effect of unusually well-developed utero-sacral ligaments when the body of the uterus has been forced down between them. I will not go over again the considerations which lead me to attach importance to the effects of these structures. I will only say that the possibility of the effects described can be observed by anyone who will examine fifty or a hundred female dead bodies, and that the actual production of them has been proved by a well-observed case; and so much as this cannot be said for the morbid changes which are assumed to result from mere flexion of the uterus. Dr. Hewitt regards the condition of which I speak as unimportant, because he has not always been able to feel these bands. I submit that the examination of the relations of the uterus in the dead body is less liable to error than vaginal and rectal examination during life.

3. *The Interpretation of Signs and Symptoms.*—It is here that I find myself most at variance with Dr. Hewitt. Some of the common clinical observations which to him seem important appear to me scarcely to need considerations

[1] Obstetrical Transactions, vol. xxiv.

while other facts, which to my mind tell powerfully against the flexion theory, he makes no attempt to explain; and at to a third class of observations, his experience is so different from mine, and from that of others who have studied the subject, that I cannot reconcile them, but must leave it to those interested in the subject to observe for themselves and decide which is right. Dr. Hewitt puts forward as clinical evidence of the morbid effects of flexion the escape of menstrual and leucorrhœal discharge in gushes, the passage of clots at the menstrual period, and enlargement of the body of the uterus at the menstrual period. To give these clinical phenomena any value as evidence bearing on the question, it ought to be shown that they occur only or with much greater frequency in those women in whom flexion of the uterus is present. Dr. Hewitt does not seem to have instituted any inquiry into the frequency with which clots are passed and fluid said to escape in gushes in women with bent and straight uteri respectively. I have not made any such inquiry myself, not thinking it worth the trouble; but if such evidence is thought worth consideration, it appears to me that this is the first point to be settled. Were such an inquiry made, I believe it would be found that the clots and gushes would be described pretty nearly as often, in proportion to their number, by women with straight uteri as by those with flexion. I do not think it of moment, because in the great majority of cases in which clots are passed, it is impossible to say whether the blood coagulated in the uterus or in the vagina. It is my rule, when patients say that they pass clots, to ask them to bring them for me to see; and I generally find them small and recent, and telling nothing by their shape of the place in which they were formed. As to the gushes, the correctness of the fact rests entirely upon the patient's statement, and patients—females especially—can so seldom describe with scientific accuracy, that to build a theory on such descriptions seems to me to be building on sand. Of course we must take the patients' statements when it is only through them that we can get the information we want, and I quite agree with Dr. Hewitt that their complaints ought not to be treated as fanciful; but subjective symptoms stated by patients ought not to be seriously put side by side with things seen by trained observers. Granted that discharge does escape in gushes, what evidence is there that the accumulation was in the uterus, and not in the vagina? It is common enough for secretions, and occasionally air, to be retained in the vagina in much greater quantity than the unimpregnated uterus will hold. In short, these phenomena do not influence my opinion, for the reasons—(1) That the fact of the occurrence of the gushes rests only on the sensations of patients; (2) if gushes and clots do escape there is no evidence that the expelled products were retained in utero; (3) no evidence has been adduced to show that they are at all peculiar to women whose uteri are bent.

There is an observation of Schultze's bearing on the supposed accumulation of fluid in the uterus behind a bend in it, which I quoted in one of my papers, and which I must allude to here because Dr. Hewitt, doubtless through my fault, misrepresents its meaning. I did not cite the mere fact that Schultze had passed the sound into an anteflexed uterus during the height of the menstrual pain as evidence that the canal was not obstructed. The point of the observation, which Dr. Hewitt does not mention, is this: that when the instrument was so passed, at the height of the pain, no escape of blood followed its withdrawal—showing clearly that in the case or cases examined there was no accumulation of blood in the uterine cavity. Schultze's statement as to the patency of the canal during the pain has been recently confirmed by observations made by Dr. J. E. Burton of Liverpool.[2]

There are other clinical phenomena of which Dr. Hewitt offers no explanation. Some of the most striking instances of benefit from treatment by pessaries are furnished by cases in which the uterus is quite straight, being simply retroverted, not retroflexed. No theory as to obstruction of the canal, or strangulation of the vessels by flexion, helps us here. The removal of symptoms must have resulted from the removal of some condition quite other than flexion. The promptness of the relief following mechanical treatment shows that it is a condition associated with the displacement, and the number of cases of retroversion which do not cause trouble shows that it is a condition not present in every case. I believe the elucidation is to be found in the disposition of the utero-sacral ligaments. Dr. Hewitt, although he condemns this as "mere trifling," yet has no explanation of these cases to put in its place. Again, there is, to use Dr. Hewitt's words, the "liability to greater congestion in retroflexion than in anteflexion cases." This needs explanation, but Dr. Hewitt offers none. Anteflexion is frequently met with so acute that the lower part of the cervix is parallel with the body of the uterus, while retroflexion so extreme as this is uncommon. If congestion depended on the flexion, it ought to be in proportion to the acuteness of the bend, which it is not, as Dr. Hewitt, in the sentence quoted, practically admits.

(To be concluded.)

[2] British Medical Journal, Sept. 27th, 1884, p. 607.

CASE OF

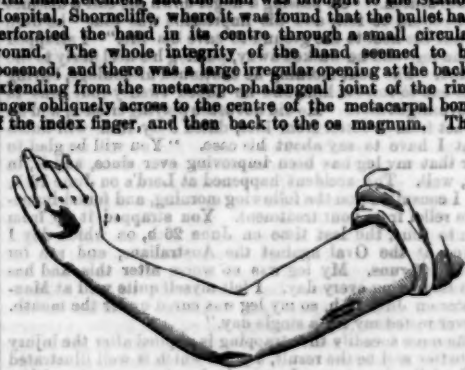
DOUBLE WOUND IN THE SAME LIMB FROM A SINGLE GUNSHOT.

BY BRIGADE-SURGEON G. L. HINDE, A.M.D.

THE following case of conservative surgery presents many points of interest:—

Private R. S——, 7th Dragoon Guards, aged twenty, when at rifle practice, seeing his carbine, which he had lent to a comrade, lying on the ground, the hammer at full cock, and not knowing it was loaded, proceeded to ease the spring. To do this he leaned his left hand on the muzzle and pulled the

trigger with his right thumb. On the discharge of the weapon he was severely wounded both in the hand and in the upper arm. The arm and hand were temporarily tied up with handkerchiefs, and the man was brought to the Station Hospital, Shorncliffe, where it was found that the bullet had perforated the hand in its centre through a small circular wound. The whole integrity of the hand seemed to be loosened, and there was a large irregular opening at the back, extending from the metacarpo-phalangeal joint of the ring finger obliquely across to the centre of the metacarpal bone of the index finger, and then back to the os magnum. The



second metacarpal bone was gone with the exception of its head; the first and third metacarpal bones were exposed for almost their entire length; and the os magnum was chipped at its metacarpal articulating surface. The extensor tendons of the second finger were also destroyed, the others much displaced. All ragged tissues and those hardened from powder and fire were removed, and the wound cleansed from all clots and débris by syringing with tepid carbolised water, and then packed with lint steeped in carbolic oil, and the whole supported by a light bandage. Further examination showed that the bullet had also perforated the upper arm on the

inside, somewhat anterior to the artery, and fractured the humerus at the junction of the middle and lower third, and then passed out at the back of the arm, the entrance wound being small, the exit irregularly circular, about two inches in diameter, with everted edges, and having a mass of muscle protruding. Inside the integuments a large cavity was found lined with broken up tissues mixed with fragments of bone. One large piece of bone, which appeared to be of almost the entire circumference of the shaft, and one inch and a half long, having plenty of attachments, was brought into position between the fractured ends of the shaft, so as to give a base for the deposit of callus, it being hoped that it would have sufficient vitality not to become a foreign body. Having removed all spiculæ, ragged fascia, and muscle, the cavity was cleansed from clots by syringing, and filled from both sides with lint saturated with carbolic oil; the limb was then placed on a jointed arm-splint in a semiflexed position. All the wounds were covered with carbolised gauze, and kept moistened with carbolic lotion. There was very little swelling, and little constitutional disturbance for the following five days. On the sixth day the patient complained of burning pain in all the wounds, suppuration being fully established. I proceeded to dress the wounds of the hand. On removing the plugs profuse hæmorrhage occurred, apparently from both palmar arches; so, after consultation, it was decided to tie the brachial artery. The operation was carried out immediately. A ligature was placed upon the artery where most superficial in its upper third, and all wounds were dressed with carbolic oil. Catgut ligatures were tried, but, being found unsound, silk was used. The night following the temperature went up to 102·4°. After a purgative enema the temperature began to decrease. The next morning it was only 101·2°. With the aid of cotton-wool the hand and arm retained natural warmth. All the wounds were dressed daily antiseptically. The ligature came away on the tenth day, and steady progress continued. Some slight changes in treatment were required—such as strapping a gaping wound, and a short febrile attack combated—otherwise it might be said that the treatment was uniformly antiseptic and simple. On this (the 108th) day the state of the limb was as follows:—The elbow had a good motion, but its action was limited owing to cicatrices being adherent to the biceps and the triceps muscles. All motion was complete in the wrist-joint. Motion in joints of fingers good. Apposition with thumb returned under passive motion and daily practice. The second finger had lost all power, but retains its shape; all joints perfect under passive motion; it may require operative interference hereafter. The upper arm is shortened about three-quarters of an inch. The above drawings show the relative position of wounds.

NOTES OF A CASE OF POST-HEMIPLEGIC HEMICHOREA ASSOCIATED WITH INSANITY.

BY C. THEODORE EWART, M.B., M.CH.
SENIOR ASSISTANT MEDICAL OFFICER, FISHERTON HOUSE ASYLUM, SALISBURY.

ALTHOUGH the following notes are meagre, they may be of some slight clinical interest.

E. M——, cab-driver, aged forty-two, was admitted into the Fisherton House Asylum on March 29th, 1884. The patient is a fairly well nourished man suffering from aphasia, and has extreme difficulty in speaking. Hesitation, delay, irregularity, and jerkiness are noticed in his articulation, "from the incoördinate action of the cerebral centres, whose function it is to translate thought into the corresponding motor acts of speech." I understand that on two occasions he has lost consciousness, the symptoms being of an apoplectic nature. There is no history of hereditary predisposition to insanity. His mind is depressed, and he is irritable, obstinate, and taciturn. His perception is defective, indicative of failure of brain power, and he does not seem capable of conceiving an exact idea of his situation. He has never had rheumatic fever, and there is no cardiac mischief. There are violent choreic movements of the right arm, and, though to a much less degree, the right leg. The left arm is not affected by spasm, but is partially paralysed. The movements on the right side are so severe that his face is bruised from the self-inflicted wounds, and his hand hurt from striking against his bed. The force is such that an attendant's face coming in the line of motion his eye received a severe contusion. The upper right forearm is an inch larger than the left, and this increased muscular development must be due to the constant movement, which only ceases during sleep. The muscles of the face are very much contorted. By the influence of the orbicularis and neighbouring muscles the mouth is drawn into odd positions. The forehead is wrinkled, and the whole face presents the most contradictory expressions; in fact, there is a "delirium of the sensori-motor ganglia." A certain amount of anæsthesia is present, but there is no great loss of tactile sensibility in the affected hand, which grasps with greater firmness than the other. The sense of hearing is blunted, but sight, taste, and smell are not. Mastication and deglutition are imperfectly performed. When attempting a definite movement the spasmodic action is much exaggerated. The hand is alternately supinated and pronated, extended and flexed, and so combined as almost to defy description. Control over the bladder and rectum is retained. No albumen in the urine. Knee-jerk and ankle clonus exaggerated.

Treatment.—Cod-liver oil was ordered three times a day. Twenty minims of the tincture of Indian hemp combined with twenty grains of bromide of potassium were prescribed every four hours, and a draught containing thirty grains of chloral hydrate and ten grains of bromide of potassium was given at bedtime to procure sleep. As soon as the spasmodic action ceased he was put on fifteen-drop doses of the tincture of perchloride of iron. The bowels were kept open. The diet consisted of beef-tea, milk, eggs, and brandy. The right arm was bandaged to his side; at first when this was done the lower extremity of the same side was violently affected, and had also to be bound. In a fortnight he was able to button and unbutton his coat, and could dress himself; in another week he could converse in an intelligible manner. He carried his hand in the pocket of his coat, so as to prevent its disordered movements. He is now able to execute any intended movement, but in a slightly tremulous manner, and there is no difference in the size of the two forearms. There is still a fidgety manner, which shows itself in grimaces, needless haste, and a want of precision.

Remarks.—I consider from the symptoms that the hæmorrhage must have occurred in the corpus striatum, optic thalamus, and medulla oblongata. Raymond says that in six cases where a post-mortem examination was made the lesion was situated in every instance in the posterior part of the optic thalamus, and involved the fibres of the internal capsule. The lesions which have been found to give rise most frequently to hemichorea are yellow cicatrices, the remains of old hæmorrhages, or softening from occlusion of the posterior external optic artery, although choreiform movements have occasionally been observed during the growth of tumours in this region. The symptoms do not appear to depend upon lesion of the optic thalamus itself, inasmuch as they are never present unless some of the fibres of the sensory peduncular and pyramidal tracts are injured; nor does it even appear to be caused by injury of the sensory fibres, since hemianæsthesia with bilateral hemianopsia may be present without being associated with choreiform movements. It would seem, therefore, that injury to some of the fibres which lie in front of the sensory peduncular tract is the cause of hemichorea (Ross).

SCHOLARSHIPS.—At the Westminster Hospital Medical School the Fence entrance scholarship of £40 per annum, tenable for two years, has been awarded to Mr. James Dickinson; and the entrance scholarship of £20 per annum, tenable for two years, to Mr. George Thomas James.—At King's College the entrance scholarships have been awarded as follows:—Warneford scholarship of £75 each to Messrs. A. S. Sandifer and T. B. Beach; Sambrooke Exhibition of £50 to Mr. H. S. Ballance; and Clothworkers' Science Exhibitions of £50 and £25 to Messrs. T. G. Brodie and C. W. Atkinson.

THE portrait of the late Duke of Albany, by Mr. Walter Goodman, recently exhibited in the Guildhall Galleries, has been purchased by the Secretary of the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, on behalf of the Board of Management of that Institution.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

THREE CASES OF EPITHELIOMA OF THE TONGUE AND FLOOR OF THE MOUTH.

(Under the care of Mr. MORRANT BAKER.)

FOR the following notes we are indebted to Mr. Toller, house-surgeon.

CASE 1. *Epithelioma of the Tongue; Operation through Cheek; Removal by Ecraseur; Recovery.*—Henry H——, aged fifty-three, builder, was admitted to Darker ward on Dec. 14th, 1883, suffering from epithelioma of the tongue. Six years ago he first noticed a soreness in the centre of his tongue, without being able to assign any apparent cause. He consulted a medical man, and after using a gargle appeared to obtain relief for a time, and for two years slowly improved, although unable to take solid food; from that time the improvement continued until four years ago, when he felt well, and was able to eat solids. In August, 1883, the soreness again appeared, when he again sought advice, and after the application of a gargle and nitrate of silver his trouble rapidly increased. There was no family history of cancer, and no syphilitic history. The patient had been subject to gout; the urine was normal. He had smoked to a great extent up to twenty-seven years of age, but since that time very little.

On admission, on the right side and posterior two-thirds of the tongue there was an indurated, ragged ulcer, with sloughing, everted edges extending across the median line, and involving part of the left half of the tongue. The tongue was fixed, and could not be protruded beyond the teeth, which in the right lower jaw were in a carious condition. An enlarged lymphatic gland could be felt below the angle of the jaw on the affected side.

On Dec. 19th Mr. Morrant Baker removed the tongue. The cheek on the right side was transfixed and the incision carried forwards one inch and a half to the angle of the mouth. Each half of the tongue was removed separately by the écraseur. A hard mass could still be felt extending back as far as the base of the epiglottis and involving the right tonsil; this was drawn forward by a silk suture and a ligature passed behind the mass, which was then removed with the scissors, a part of the soft palate and right tonsil being involved in the removal. The edges of the cheek were then brought together with harelip pins.

The patient had a fair night. Next morning the temperature was 101°. Milk, eggs, and brandy were given at intervals through an elastic tube and funnel. The mouth was constantly syringed with Condy's fluid.

On Dec. 28th he was going on well, and the wound was healing. He could swallow easily without the tube. He had a slight attack of gout.

On Jan. 11th he was discharged well.

CASE 2. *Epithelioma of the Tongue and Floor of the Mouth; Removal of the whole of the Tongue, Floor of the Mouth, Submaxillary Glands and Anterior Portion of Lower Jaw; Recovery.*—George B——, aged fifty, painter, was admitted to Harley ward on Feb. 14th, 1884, suffering from epithelioma of the tongue and floor of the mouth. The patient had noticed a small swelling beneath the tongue in the centre of the floor of the mouth for two months which had rapidly increased, causing great pain and inability to masticate solid food.

On admission the growth occupied the whole of the under surface of the tongue and floor of the mouth, extending forwards to the symphysis of the jaw which it invaded and posteriorly involved the gums nearly to the base of the tongue. The surface was irregular, deeply ulcerated and hard, and was partially covered by a thick greyish-white slough. The edges were raised and indurated; the tongue could not be protruded, but could be moved freely in the mouth. The submaxillary and other glands were enlarged. The salivary flow was greatly increased and trickled from his mouth. The urine showed a faint trace of albumen. No gouty or syphilitic history could be obtained.

On Feb. 27th Mr. Morrant Baker proceeded to remove the morbid growth. A vertical incision from the centre of the lower lip to the under surface of the symphysis was made, the parts were then reflected back for an inch and a half on either side by means of an incision along the lower border of the jaw at right angles to the previous incision. The alveolar process being invaded, was then removed by the aid of Dr. Bonwell's surgical engine. It was found, however, that even this procedure did not permit the whole of the disease to be satisfactorily removed; a portion therefore of the whole thickness of the horizontal ramus of the jaw was removed from about the first molar on one side to the second bicuspid on the other, the bone having been first deeply notched by the circular saw and the section completed with bone forceps. The structures forming the floor of the mouth being affected were removed, including the submaxillary glands of both sides. The tongue was then divided from the tip to the base and each half removed by the scissors; the base of the tongue was then fastened to the floor of the mouth, the lip wound was then brought together by harelip pins and dressed with sanitas oil lint.

On the 28th the patient passed a restless night, notwithstanding three subcutaneous injections of morphia, one-sixth of a grain each time. He was fed through an elastic tube and funnel without discomfort. Next day the wound of the lip was found to be healing by first intention.

On the 29th there was some swelling at the base of the tongue; the tube could not be passed for two days, during which time he was fed per rectum. The mouth was dusted freely with powdered iodoform, and syringed frequently with Condy's fluid.

On March 24th he took liquid food from a feeder. The wound was healed, with the exception of a fistulous track leading from the submental region into the mouth, the remains of a part of the wound which had been utilised for drainage during the after-treatment. The patient was discharged on April 4th.

CASE 3. *Epithelioma; Removal of the Right Half of the Tongue through an Opening in the Cheek; Rapid Recovery.*—Mary D——, aged thirty-two, married, was admitted to Sitwell ward on March 27th, 1884, suffering from epithelioma of the tongue. Seven months previously she noticed a small swelling on the right half of the dorsum of the tongue, which was painful and gradually increasing in size. There was no family history of cancer; all her children were healthy, the youngest being six months old.

On admission the growth involved the right posterior half of the tongue, extending to, but not beyond, the median line. The tongue could not be protruded beyond the lips. There was a slight glandular enlargement at the angle of the jaw of the same side.

Mr. Morrant Baker removed the right half of the tongue on March 29th. The right cheek was transfixed about two inches behind the angle of the mouth, and the incision carried forwards into the mouth; the tongue was then divided from tip to base, and the right half removed by the cord écraseur. The cheek wound was brought together by harelip pins.

The patient had a fair night. The wounds were dusted with iodoform and syringed with Condy's fluid every few hours. Nourishment was administered by the elastic tube.

Eleven days from the operation the patient was discharged, the mouth looking very well, and the wounds quite healed.

Remarks.—Mr. Morrant Baker remarked that these cases were all of them examples of advanced epithelioma of the tongue and neighbouring parts, in which removal was undertaken, more for relief from present and future pain than with any expectation of a long freedom from recurrence. In the event of the operation being followed by recovery, it was anticipated that there would be great relief from the severe pain produced by gradually increasing pressure on the nerves, especially the gustatory; and that, in the event of recurrence, the pain would be very much less than in the case of no operation having been performed. In all the cases there might be a fair expectation that the ulcerating tumour would never reach the same dimensions as originally, and that not improbably recurrence might not happen to any extent in the mouth, but in the lymphatics which were out of reach at the time of the operation. In cases of removal of epithelioma of the tongue at an early stage it frequently happened that in the event of return of the

disease in the cervical lymphatics the mouth remained quite free, and therefore the removal was the means of infinite relief to the patient. Early removal could not be too strongly insisted upon, and in a very large number of cases surgical interference is actually necessary in order to give as much relief as possible to the sufferer.

DEVONSHIRE HOSPITAL, BUXTON.

HEREDITARY CONGENITAL MALFORMATION OF HANDS AND FEET.

FOR the subjoined notes we are indebted to Mr. W. J. Tilley, assistant house-surgeon.

The following case is of peculiar interest, because similar malformations exist in several members of the patient's family.

C. S——, aged forty-four, single, was admitted with rheumatism. She was a strong healthy-looking woman and well developed, except in the extremities of both upper and lower limbs. The hands were normal, except for the absence of the two terminal phalanges of all the fingers. The feet, with the exception of the toes, were well formed. The right had four toes, the inner two being normal; the third contained two bones (metatarsal phalanges), the two terminal phalanges being absent; the fourth was very small and had but one minute bone. The left foot also had but four toes, the two inner being normal, the third contained one bone only. The fourth presented a slight longitudinal groove, suggesting the fusion of the two toes, but only one metatarsal phalanx was present.

The patient was one of a family numbering ten. The condition of the other nine members was given by the patient:—First child, male. Fingers and toes normal. Second child, male. Fingers and toes normal. Third child, female (patient). Condition described above. Fourth child, male. Fingers all short; toes normal. Fifth child, female. Two fingers (index and middle) normal. The others had but one bone; toes normal. Sixth child, female. Index and middle fingers have two bones and small nails on each; ring and little fingers have but one bone in each; toes normal. Seventh child, female. Fingers and toes normal. Eighth child, male. Fingers all short; toes normal. Ninth child, male. Fingers and toes normal. Tenth child, female. All fingers short; toes normal.

The patient's father had short fingers (but one bone in each). Several (paternal) uncles had deformities of both hands and feet, but patient was uncertain what the exact condition was in each case, as no detailed account was taken. Two of the patient's sisters are married, No. 5 and No. 7 in the list. No. 5, who had malformed fingers, has three children; two girls are free from deformity; the third is a boy, with ring and little fingers containing but one bone. No. 7, whose fingers were normal, has several children without deformity. One of the patient's uncles is married, and has children with deformed fingers. One of these children, a daughter, is married, and her fingers are all short; she has four children, two boys and two girls, all having short fingers. The patient has been told by her parents that her paternal grandmother had short fingers.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Dysenteric Abscesses in Liver.—Hæmophilia and Purpura.—Tabes Dorsalis with Perforating Ulcer.—Alcoholic Paralysis.

THE first ordinary meeting of the new session of this Society was held on Tuesday last, Mr. George Lawson, a Vice-President, in the chair. The meeting proved to be full of interest, the papers and discussion were good, and the microscopical specimens all that could be desired.

Dr. CHARLEWOOD TURNER read a paper on Dysenteric Abscesses in the Liver. In the first case there were two abscesses of old date and several smaller abscesses of recent formation. The patient was a man aged thirty-four, who on his voyage home from Singapore felt pain about the hypochondrium, and had frequent vomiting and severe diarrhœa with bloody and slimy stools. At Port Said he was sent into hospital, a hepatic abscess was tapped and five ounces of thick pus withdrawn. His health somewhat improved, but when again on board the dysenteric symptoms returned. When he reached London he was taken into the London Hospital, where he died two days after admission. He had had pain all over the abdomen and dragging sensations in the rectum, with all the usual symptoms of dysentery and hepatic suppuration. The liver was enlarged but not tender; there were marked anæmia and signs of pleurisy at the base of the right lung. At the autopsy extensive destruction of the mucous membrane of the colon was discovered, with some extravasation of fæcal matter into the peritoneal cavity at this site. The intestines were coated in places with lymph, and patchy hyperæmia was also visible. The coils of the bowels were slightly adherent. In the anterior part of the liver a large abscess, which occupied the quadrate lobe and almost destroyed it, was found. A second large "primary" abscess was seen in the middle of the upper surface of the left lobe; this was smaller than the first and of the size of a hen's egg. The two large abscesses were bounded by thick fibrous walls, had a smooth lining membrane, and were connected with neighbouring structures by firm adhesions. The next important feature was the presence, scattered all over the surface of the right lobe, of small abscesses and areas of actual or commencing suppuration. There were none of these in the left lobe. There was no cirrhosis of the liver; the lungs were congested and œdematous; the right lung was adherent; the kidneys were enlarged and weighed sixteen ounces; the spleen weighed four ounces. Dr. Turner said that the features of the case were entirely in accordance with the generally accepted views on dysentery and hepatic abscess. A point to explain, however, was the limitation of the multiple abscesses to the right lobe of the liver. Septic micro-organisms probably played a part in the infection of the liver from the disease of the bowels. No doubt the presence of other conditions than mere absorption of poison was necessary in order to interpret the peculiar features of the case. A condition affecting the nutrition of the right lobe of the liver, and which so placed it at a disadvantage with the left lobe, was found in the state of the right branch of the hepatic artery at the point where the cystic artery was given off; here it made a sharp turn backwards. He thought that the association of fresh hepatic disease with the commencement of a fresh outbreak of disease of the bowels was of a causative kind. Infective micro-organisms in the follicles of the colon or in the contents of the bowel were the probable agents in producing the disease of the liver. Local conditions were of chief importance in determining the occurrence of these abscesses, and the possibility of the partial dependence of the primary abscesses on some local injury, such as a blow in the epigastrium, was speculated upon. As an illustration of these remarks, a case of traumatic aneurysm of the renal artery as the result of an injury to the abdomen was cited. Heubner and others had discussed the causes of the recrudescence of the disease after apparent recovery. The restoration of the absorptive function of the mucous membrane of the colon might play a part in the renewal of hepatic disease.

Dr. CARRINGTON read notes of a case also of Dysenteric Abscess of the Liver. The first case was that of a man, aged twenty-two, a Portuguese sailor, who was admitted on August 6th into the Seamen's Hospital, Greenwich, in a state of high fever. Marked wasting, rigors, and other usual signs were present, and an exploring needle allowed pus to be withdrawn. At first the diagnosis between empyema and hepatic abscess was impossible. A free incision into the swelling in the lower aspect of the right axilla let out two or three pints of the peculiar grumous fluid found in hepatic abscess. The fever continued, and the patient gradually sank three weeks after admission. At the necropsy the liver was much enlarged, and two large abscess cavities were seen in the upper part of the right lobe of the liver. One of these had been tapped, and the other contained a quarter of a pint of thick pus. Besides the large abscesses, the whole substance of the liver was riddled with many small abscesses, about the size of a small pea, or less; in some of these areas a small vessel like a vein could be detected. Deep ulceration extended throughout the whole of the large intestine. From his experience he could say that this association of small with large abscesses in the liver was comparatively rare. The walls of the tropical abscesses were very thick, and proved its older date. If these abscesses were due to septic absorption what was the source of the infection? The

multiple abscesses were found in every part of the liver, and as no track of disease could be found in the portal vessels, he suggested that the lymphatics were the carriers of the infective material.—Dr. EWART referred to two patients suffering from hepatic abscess, both of whom had served in Egypt; one, however, recovered, and the other died. The first case was that of a man aged twenty-eight, who recovered after aspiration. The other patient, also a man aged twenty-eight, was suddenly seized with acute pain in the abdomen and a feeling as of something having burst. Aspiration was practised two or three times, and finally a free opening was made into the hepatic abscess; he finally succumbed after having suffered for two weeks before death from dysentery. The liver was found to be riddled with small abscesses, the appearance of which suggested necrosis rather than free suppuration. The large abscess had an indurated wall. The appearance of the colon, which had a pale, waxy, sodden, necrotic aspect, was almost precisely like that of the liver. He thought that the infection must have proceeded along the portal vessels.—Dr. CURNOW referred to the question in saying that the views of Dr. George Budd on the causation of tropical abscess—viz., that it was of pyæmic origin from dysenteric disease—were fast gaining ground in England, notwithstanding the influence of Dr. Murchison's work. In his (Dr. Curnow's) experience there never had been a case which was not dysenteric in origin; the evidence of dysentery rested on post-mortem examination, the actual presence of the classical symptoms, or a clear history of it. So that he now doubted whether the view, as held by many Indian surgeons, that no direct relation existed between the two diseases, was really correct.—Dr. SAMUEL WILKS, whilst agreeing with the remarks of the previous speaker, said that there must be strong grounds for the views held by surgeons of large Indian experience. Sir Joseph Fayrer, and a French surgeon who had had much experience in Algeria, were sure of the occurrence of hepatic abscess apart from dysentery. In mild climates, too, ulceration of the intestines frequently took place without hepatic abscess resulting; so that climate probably had some influence in the causation.—Mr. GEORGE LAWSON said that, surgically, the difficulty was to treat the multiple abscesses.

Dr. WICKHAM LEGG brought forward some specimens illustrating the anatomy of Hæmophilia. About three years ago he had shown specimens of the mucous membrane and skin taken from a fatal case of hæmophilia, in which no alteration from the natural state could be discovered. Those specimens and some new ones had been investigated by Dr. Klein, who also concluded that no morbid changes were present. The case of a little boy, aged thirteen, who died from epistaxis, was next referred to. He had had bleeding from many parts and swelling of the joints. This was the sixth case in which the tissues had been examined. In four cases the examination showed nothing abnormal. In one case reported by Lindwurm the skin was such a remarkable specimen of ichthyosis that the patient had not a sound place from top to toe, and Dr. Legg was inclined to reject this instance. The other was a case of Dr. Percy Kidd's, in which extensive changes in the vessels were discovered. Dr. Legg next handed round specimens of the joints in hæmophilia. This was only the fourth case in which the arthritic disease had been demonstrated after death. Poncet of Lyons and Sir William Jenner had examined two, and he had placed the other two on record. The first stage of the disease was an extravasation of blood into the joint, and the cartilages remained sound. In the second specimen the synovial membrane was seen to be rusty-coloured, and slight erosion of the cartilage of the femur was present. In the third specimen the synovial membrane was of a deep-red colour, and the cartilage was deeply eroded and destroyed. It was thus shown that the arthritic disease was caused by the extravasation of blood.

Dr. THEODORE ACLAND showed specimens of the Thymus Gland in cases of Hæmophilia and Purpura. The nature of the changes were doubtful. He described spheroidal masses of concentric appearance which were many times the size of the concentric corpuscles of Hassell. The first case was that of a boy aged 7, who had sustained a wound of the tongue by which death from loss of blood was caused. There could be no doubt that the boy was a genuine bleeder; he had one brother who suffered from frequent epistaxis, and another who had bled from the gums and bowels. The patient had had many petechiæ and bruises. The three girls of the family were healthy; a grandfather on the mother's side had suffered from the malady. The blood after death was profoundly altered, being much paler and more watery; the white corpuscles were in excess. All the tissues were perfectly natural with the exception of the parotid and submaxillary glands, sections of which presented numerous small darkly stained cells in the acini; probably the result of irritation from the lingual wound. In the thymus gland round spherical masses, which were probably related to the striated corpuscles of Hassell, and which were bounded by a layer of flattened elongated cells and contained epitheloid cells having a faint nucleus, were to be seen. The fibrous tissue was much increased in many places. The gland was of considerable size. Whether these curious bodies were stages in the evolution of striated corpuscles he could not state. He had examined several thymic glands from healthy children with a negative result. It was significant that he had found these bodies in purpura and hæmophilia. The case of purpura was that of a girl with pelvic abscess, in which the purpuric eruption was almost universal.

Dr. WICKHAM LEGG read notes of a case of Purpura, which two years before death had had a hard chancre. The man had been a heavy drinker, and had been ill and sparely fed. When first seen, the purpuric eruption, which came out in greater abundance one month before death, was associated with swelling of the joints of the knees, ankles, and of the hand. About five days before death a recrudescence of the purpura set in in the form of urticarial wheals, into which, within a few hours, hæmorrhage occurred. The purpura began at one elbow, and next appeared symmetrically at the other elbow, and finally became widespread. The patient died exhausted by diarrhœa. At the necropsy there was severe ulceration of the intestines, extending all along after the first four feet from the duodenum had been passed. The occurrence of intestinal ulceration was not at all uncommon in cases of fatal purpura. On microscopical examination a large amount of corpuscles in all the tissues of the skin were found to be extravasated in and around the sweat glands and between the vesicles of the fatty tissue. Besides the scattered red corpuscles, there were masses of red discs; some of the corpuscles had one end rounded and the other irregularly shaped. The blood proceeded from ruptured blood-vessels. There were changes in the papillæ, and the vessels under the epidermis were distended and dilated. The arteries were greatly thickened, especially the inner and middle coats, abundant nuclei being seen on section. In the villi of the intestine a large number of hæmorrhages had taken place, and in places areas of infiltrated white corpuscles were to be seen. Scurvy was probably not the cause of the disease; there were no swollen gums, and the patient had not undergone any very great improvement by treatment. The purpura of alcoholism was negatived by the absence of cirrhosis, and that of rheumatism was supported only by the swollen joints, which were probably of hæmorrhagic origin. Syphilis remained as the probable cause. In cases of erythema nodosum and of purpura urticans (Bateman) we had somewhat similar appearances, but there had been no burning or itching sensation at first in Dr. Legg's case. The presence of considerable disease of the vessels of the skin in syphilis was not impossible, and reference was made to the case recorded by Dr. Wilson Fox, in which fatal purpura was probably of syphilitic origin. In all his cases Dr. Legg had found no micro-organisms; Ceci, working with Klebs of Prague, in 1881, had described micro-organisms, as had also Barthelemy of Paris, and there were altogether only a few cases in which micro-organisms had been discovered.—Dr. BUZZARD agreed with Dr. Legg that the case was not one of scurvy, but he had never seen such a condition as the result of syphilis. In alcoholic patients he thought such changes in the vessels were to be found. He referred to one case in which the vascular changes were exactly similar to Dr. Legg's specimen.—Mr. VICTOR HORSLEY said that the concentric bodies which Dr. Acland had described recalled the descriptions of Affanasieff, who believed that such structures were the result of endarteritis of small vessels; there was every stage between those bodies and Hassell's corpuscles. The alliances of the concentric bodies to specimens of psammoma were also indicated.—Dr. PERCY KIDD referred to the case of hæmophilia which he had published in the Medical and Chirurgical Transactions for 1878. There were extensive changes in the veins and capillaries not only of the diseased parts, but also of remote vessels like the vasa vasorum of the aorta and vena cava. He thought that an affection of the wall of the vessel would probably be found to be the real cause of hæmorrhage.

Mr. PEPPER read a paper on a case of Tabes Dorsalis asso-

ciated with Perforating Ulcer of the Foot. In May, 1883, the patient, a woman aged sixty years, first came under notice. She had been in India, and had had ague of a severe character. There was no history of alcoholism, syphilis, or injury. There was very decided numbness of the second toe on the right foot. She had been successfully operated on for double cataract at the Middlesex Hospital. There were "stinging" sensations all over the body; and a painful corn had developed in the sole of the right foot. Here there was to be seen a heaped-up mass of epithelium. Decided anæsthesia of both feet was detected, and there was absence of the knee-jerks. The gait was not attended with any noticeable ataxia. There was partial ptosis on both sides. Later on very acute inflammation of the skin over the dorsum of the foot occurred, and the inflammation rapidly went on to gangrene. Throughout the case the urine was normal. The patient left the hospital on June 10th. Later on, June 18th, she was taken into the hospital, and the foot was removed with strict antiseptic precautions. For the space of four days there was no sign of local disturbance, but after that time the heel flap became purple and sloughed. Thence onward the case went rapidly to the bad; bedsores of surprising acuteness, and attended with no previous sign of inflammation, formed, turned black, and the tissues speedily disintegrated. There was generally no fever, and 101° F. was registered only once.—Dr. SILCOCK read the notes of the morbid appearances. The sinus in the stump ran up on the inner side of the tendo Achillis, and much pus infiltrated the tissues upwards as far as the popliteal space. The lower end of the tibia was necrosed. The brain was sound, with the exception of the atheromatous vessels; the spinal cord showed grey degeneration of the posterior root zone. The mitral valve was much diseased. The liver and kidneys were toughened, but the other organs were normal. On microscopical examination the whole cord was found to be affected with diffuse sclerosis, which was not limited to special parts. Around the grey matter, more markedly in the posterior columns, there was much thickening of the neuroglia. The posterior cornua and posterior roots were also involved, and in the grey matter some spaces bounded by ragged irregular walls and having a reticular or granular appearance, sometimes homogeneous, were to be seen. In places what seemed to be altered myelin was observable, but the clear spaces just described in the grey matter were probably due to recent inflammatory softening, and were almost exactly like those to be seen in a case of tetanus reported by Mr. Pepper. The bloodvessels of the cord were notably thickened. In the posterior root zones no normal nerve fibres were observed. The chief part of the changes was probably of considerable standing. Reference was next made to the state of the sciatic and internal popliteal nerves; there was evidence of hyperplasia of the endo- and epi-neurium, and the myelin had segmented, whilst the axis cylinders were much altered. The changes described by Messrs. Savory, Butlin, Déjerine, Pitres, and Vaillard, as occurring in cases of locomotor ataxia associated with so-called trophic lesions, were compared with those present in the case narrated, and the conclusion was come to that the trophic lesions were, with far more reason, attributable to structural alteration of the peripheral nerves than to changes in the spinal cord.—Dr. SAMUEL WILKS objected to the use of the term "tabes," which had no definite meaning.—Dr. BUZZARD inquired whether the morbid alterations in the nerves had been traced from the periphery to the centre. The changes described by Déjerine, Pitres, and Vaillard were confined to the actual periphery of the affected nerves, and if the changes were continuous from the periphery to the central portions, the observations of Dr. Silcock would be a valuable complement. He could not help suggesting the idea of the possibility of the dependence of the neural changes on the thickened condition of the vessels of the periphery of the arterial system.

Dr. PAYNE and Dr. F. SEMON showed a living specimen of Rhinoscleroma, and Dr. ORMEROD a case of Sclerodermia.

Dr. W. B. HADDEN read a paper on Two Fatal Cases of Alcoholic Paralysis. A married woman, aged thirty-three, was admitted into St. Thomas's Hospital under the care of Dr. Harley on April 7th, 1883. She had always been a heavy drinker, especially for the last twelve months. She had been married thirteen years, but had never been pregnant. Four months ago she began to have pain in the head and twitchings of the face and hands. She had fallen down unconscious several times and was said to have epilepsy. She had had mental symptoms with loss of memory for three months. Ten days before admission she lost the use of her legs. On admission the legs and thighs were œdematous and she had retention of urine. The legs were almost powerless and the knee-jerks absent. Delirium set in. The lower edge of the liver could be felt two inches below the costal arch. Sensation was fairly good. The delirium continued; the paralysis of the legs and arms became more marked, and the muscles failed to respond to the strongest interrupted current. Sensation later on was noticed to be decidedly delayed in transmission. There was slight fever for a few days before death. At the necropsy there was acute tuberculosis of nearly all the viscera. The brain, medulla oblongata, and spinal cord were healthy to the naked eye, and no change was detected microscopically. The nerves were not examined. The second case was that of a woman, aged forty-two, who was a patient of Dr. Stone's. She had had seven children, six of whom were alive. Two months ago she had flooding after a miscarriage. About a year before admission she became delirious on board ship. It was ascertained that she had been drinking freely and had had delirium tremens. Weakness of the legs came on three months before admission, and for the last six weeks she had not walked without assistance. On admission complaint was made of severe pains, which started in the great toe and passed up to the hip, coming on in paroxysms. The legs and arms felt as if they were being screwed. There was no loss of control over the bladder and rectum. She slept very little, and had delusions at night. The arms were much wasted, and there was "dropped wrist" on each side. All the muscles of the arm were weak, but the extensors more than the flexors. The reflexes were absent. The muscular sense and sensation were normal. There was great weakness of the muscles of the trunk. The voice was feeble, and she had a high-pitched cough. No anæsthesia of the trunk was detected, and there were no superficial reflexes. The legs were extremely emaciated, were kept drawn up, and were very painful when touched or moved. Before death a number of bullæ appeared on the limbs. The signs of broncho-pneumonia were present, and also those of cirrhosis of the liver. There was atrophy of the brain in the frontal region. In the spinal cord the grey matter was obscure in the cervical and upper dorsal regions, and lower down the cornua seemed slender and pale. The right sciatic nerve showed the nerve tubules to be much reduced in size; the endo-neurium and neurilemma were much thickened, but not the peri-neurium; the diminution affected chiefly the medullary sheath of the nerves. In many parts there were deeply stained areas of thickened connective tissue, and the axis cylinders were deprived of their medullary sheaths. The changes were more advanced in the centre of the bundles, where there were large bundles of newly formed connective tissue, but no segmentation of the myelin. The changes in the cervical and dorsal regions and the granular appearance of the medullary sheaths were probably artificial and post mortem. These were the signs of peri-neuritis. The right median nerve showed similar changes, though less marked. In the muscles there were deeply stained nuclei which in some parts took the place of the muscular fibres; the muscular corpuscles were increased, and some of the muscular fibres were atrophied and granular. These observations showed that alcoholic paralysis was not of spinal origin, and agreed with the views that the cause was a disease of the peripheral nerves as found by Lancereaux, Dreschfeld, and others. In his case, however, the change was not a primary neuritis. Dr. Reginald Thompson had recorded in 1868 cases in which there was atrophy of certain nerves and early fatty changes in the muscles, with patches of softening in the cord, but no microscopical examination had been made. The change in the liver, nerves, and muscles was identical. Reference was made to a case in which nystagmus occurred, and to another in which motor paralysis of the arms and legs with nystagmus, atrophy of the left half of the tongue, and paralysis of the right recurrent laryngeal were associated. The hypoglossal nerve was found to be atrophied and the liver was cirrhosed; there were signs of acute tuberculosis in all the organs. The presence of cirrhosis of the liver and acute tuberculosis in combination with cases of alcoholic paralysis was frequent, and possibly not without significance.

The following card specimens were shown:—Dr. Hale White: Ulcer of Stomach with Secondary Changes in the Pancreas. Dr. Mansell Moullin: Vacuoles in Liver. Mr. John Hopkins: Bones and Joints in Locomotor Ataxia.

MIDLAND MEDICAL SOCIETY.

A SPECIAL and ordinary meeting of the above Society was held on the 8th inst., the President, Dr. Bodington, in the chair. After the nomination of the officers and members of Council for the ensuing session,

Dr. SAWYER read a paper entitled Practical Comments on Pulmonary Consumption. Briefly reviewing the pathology and clinical features of the various forms of phthisis, he said there were four well-marked varieties of pulmonary consumption—namely, miliary tubercular phthisis, lobular phthisis, lobar phthisis, fibroid phthisis. All these forms might be variously blended in any particular case. He did not believe in the tubercle bacillus. He did not doubt that a certain microscopic organism is to be found in and around tubercular cheesy masses in phthisical lungs and in the sputum of phthisical persons, but he doubted that there is a bacillus which is the veritable essence and infection germ of tubercle. He regarded chronic pulmonary consumption as a chronic inflammatory process. He had never found laryngeal phthisis apart from coexisting pulmonary phthisis. He had found ergot the most trustworthy drug in small and continued hæmoptysis, while he preferred gallic acid in copious pulmonary hæmorrhages. Careful observation of the pulse was of high diagnostic and prognostic value in phthisis. Dr. Sawyer commended chloride of calcium as a good general remedy given in ten-grain doses twice daily after food. He had used several volatile inhalations with success.

Mr. CHAVASSE showed a large Meningocele, weighing eleven ounces, that he had removed from the forehead of a child, aged fourteen months, under the care of Mr. Evans of Sutton Coldfield. At the time of birth the tumour was the size of a small apple, but gradually enlarged until the integument covering it was tense and shining. The case progressed well for twelve days after the operation, when, owing possibly to the eruption of several teeth, convulsions supervened and the child died in five hours.

Mr. SIMON showed a living case of Keloid, also a man suffering from a large Ventral Hernia.

THE GENERAL COUNCIL OF MEDICAL EDUCATION & REGISTRATION.

THURSDAY, OCT. 16TH.

SIR HENRY ACLAND, PRESIDENT, IN THE CHAIR.

THE Council having resolved itself into committee for the adjourned consideration of the subjects of the preliminary examination of medical students,

Dr. STRUTHERS moved, "That the subjects of the preliminary examination for the registration of medical students be allowed to be passed at one or more examinations."

Dr. FERGUS seconded the motion.

Dr. HAUGHTON said this proposal entirely subverted the intentions of Dr. Humphry. The examination was elementary and paltry enough to be passed at one time, and for a student to pass first in Latin and subsequently in mathematics was to lower the standard still further.

Dr. HALDANE, while agreeing that it was desirable that all the subjects should be passed at the same time, yet thought that if this regulation was not carried, a very small number indeed would pass the preliminary examination. He thought they ought to allow those who failed in certain subjects to be subsequently re-examined in those subjects without again having to submit to the entire examination.

Dr. STRUTHERS said the Council had recognised that principle to the fullest extent in the case of professional examinations. If a man passed his Latin or mathematics well, there was surely no reason for troubling him to pass another examination in those subjects, and that was all that was intended by his motion.

Dr. BANKS agreed with Dr. Struthers in thinking it would be very unfair to the student to oblige him to keep up a knowledge on some subjects that in future life would be of very little use in the practice of medicine.

Dr. STORRAR said if the motion was passed it would be putting the axe to the root of the work in which the Council had been so long engaged. The object they had in view was to narrow their requirements in order to secure thoroughness. It seemed to him to be perfectly reasonable that a lad on leaving school to enter on medical studies should be required to show that he had an intelligent apprehension of the subjects of examination. This system of remanets was nothing more than a bait held out to young men to come up in a state of unpreparedness with a chance of getting through on all the subjects, but passing a few and allowing one or two other subjects to be remanets.

Mr. MACNAMARA said he understood the object of the motion was to divide the examination into two parts, classical and scientific. If a man failed in the scientific branches and was remarkably good in the classic, he thought it would be a great hardship to send him back to work up his classics again; it would be much better for him to study those subjects in which he was weak. He thought there was a great deal in Dr. Struthers' suggestion, and should vote for it.

Dr. HAUGHTON said if this resolution was passed it would make their preliminary examinations even more contemptible than they were at present. To say that a schoolboy could not pass the first book of Euclid and Latin in the same examination was to say that he was of a very low type indeed.

Dr. HERON WATSON said the result of passing the resolution would simply be that a person who could not pass in one of the subjects would go back and cram in the subject, so that his eventually passing would be no indication of his having been properly educated.

Dr. AQUILLA SMITH said that allowing students to pass any examination by instalments was a very great evil, and the practical effect would be that they would drop the subjects in which they had passed and consider that they had done with them for ever.

Dr. FERGUS thought, on the contrary, that instead of this resolution lowering the preliminary examination, it would really raise it to a higher position.

Mr. MARSHALL said that if it was passed it would completely overturn a resolution of the Executive Committee so late as March last, by which it was resolved that all the subjects required at any preliminary examination must be passed at one examination.

Dr. STRUTHERS, in reply, said he was very much surprised to hear that he was lowering the examination, for his idea was that it was rather the opposite. If there was anything in Scotland in which it was superior to England, it was in general education. They had no difficulty at all in their preliminary education.

The resolution was then put to the Council, and carried by ten votes to eight.

The Council then resumed, and the following report was brought up:—

"That the following resolutions, passed by the Council in Committee with regard to preliminary examination of medical students, be adopted:—That the subjects now required for the Preliminary Examination, as set forth in the Regulations of the Council, be modified so as to stand as follows: No person shall be allowed to be registered as a medical student unless he shall have previously passed a preliminary examination in the subjects of general education as specified in the following list: (1) English language, including grammar and composition; (2) Latin, including grammar, translation from specified authors, and translation of easy passages not taken from such authors; (3) elements of mathematics, comprising (a) arithmetic, including vulgar and decimal fractions; (b) algebra, including simple equations; (c) geometry, including the first book of Euclid, with easy questions on the subject matter of the same; (4) elementary mechanics of solids and fluids, comprising the elements of statics, dynamics, and hydrostatics [1 2]; (5) One of the following optional subjects: (a) Greek, (b) French, (c) German, (d) Italian, (e) any other modern language, (f) logic, (g) Botany, (h) zoology, (i) elementary chemistry."

Paragraph 1 having been agreed to,

Dr. HAUGHTON moved the omission of the footnote by which the Council presumed to teach the universities how to examine.

The question being put to the Council, Dr. Haughton's motion was agreed to, and the footnote was struck out.

On Paragraph 2,

Dr. LYONS moved that Greek be included. He did not

"[1] The General Medical Council will not consider any examination in English language sufficient that does not fully test the ability of the candidate:—(1) To write sentences in correct English on a given theme, attention being paid to spelling and punctuation as well as to composition; (2) to write correctly from dictation; (3) to explain the grammatical construction of sentences; (4) to point out the grammatical errors in sentences ungrammatically composed, and to explain their nature; and (5) to give the derivation and definition of English words in common use."

"[2] This subject may be passed apart from other subjects, at an examination conducted by any one of the recognised examining bodies."

desire to reopen the discussion, but merely to move it *pro forma* in order that it might be on record.

Dr. BANKS seconded the motion.

The motion was negatived.

The report having been adopted by the Council, Dr. STRUTHERS' motion, "That the subjects of the Preliminary Examination for medical students be allowed to be passed at one or more examinations," which had been carried in committee, was put to the Council and carried.

Dr. HUMPHRY said the whole tenour of the efforts of the Council had been that the examinations in preliminary education should be conducted as far as possible by the universities, and he thought it would be wise therefore on the part of the Council to carry any resolution which would distinctly hinder the acceptance of the preliminary examination at one of their great universities. He thought that the universities should be left as far as possible free to conduct those examinations, as to which they really must be better judges than members of the Council, and more especially as it was desired that in their early examinations medical students should conform as far as possible to the general mass of students preparing to enter other professions. When the College of Surgeons and the College of Physicians in loyalty to the Council gave up their preliminary examination, it was in the hope that the examination would be mainly conducted by the universities, but their apprehension also was that it might fall into hands no better than their own. He thought under all the circumstances it behoved the Council to be extremely careful how they in any way interfered with the examinations conducted by the great universities. He spoke mainly in reference to the position of Trinity College, Dublin, and was it desirable that they should increase the difficulty of their students passing the higher examinations of that university or that they should throw its students upon other examinations? He therefore proposed that the following be added to their resolutions:—"That the examinations in general education conducted by the universities will be accepted as heretofore, but if in any of those examinations in which the standard in mathematics is higher than in the examination here proposed, and in which the subject of preliminary mechanics is not included, a knowledge of that subject will be required at a subsequent examination." Thus in Trinity College, Dublin, where the men passed a considerably higher preliminary examination altogether in mechanics, they should allow them to pass their mechanics at a subsequent examination.

Dr. BANKS seconded the motion.

Mr. MACNAMARA said the Council were doing a most serious injustice to the University of Dublin by insisting on the resolution that mechanics must be passed before registration. They were imposing a regulation which if complied with would mean giving up a year's education in mechanics for a simple trifling examination at the commencement of the student's career. The result would be that the Council would stand in the position of refusing access to their student's register to Dr. Haughton's pupils because he gave them a better education in mechanics than the Council required.

Mr. SIMON dissented from the principle of Dr. Humphry's motion. He said the Council had deliberately decided that it would require elementary mechanics to be preliminary to medical education, and he believed that the Council had never given a vote more deliberately. He was prepared to admit that there might be one or two exceptional cases, but they must be very carefully guarded and must not trench on the principle that four years was required for medical education. Of course, if there was an institution which had a curriculum of five or six years, and it happened that there was a certain quantity of intermingling of mechanics and, perhaps, anatomy in the earlier of those years, the Council would not wish to push its regulations pedantically against such students, but the principle must be maintained that they required to be satisfied that there were four years of medical study exclusive of any of the preliminary subjects. His own impression was that they had better not move further in the matter at present. Let them take time to consider it and consult, if necessary, with the Colleges, and make exceptions that should just cover right cases and no more.

Dr. STRUTHERS said he would never be a party to deliberately opening a back door for the convenience of certain universities. Before the proposal was carried into effect a year must elapse, during which Trinity College would have time to consider what it should do, and no doubt they would be able to appoint examiners for the elementary mechanics' examination.

Dr. HAUGHTON said Trinity College would not alter its plans in a hurry, and he was quite sure would not do so in order to suit the convenience of the Council. There were no penal consequences attached to the regulations of the Council, and Trinity College certainly would not come down from a higher platform in order to take up a lower one.

Dr. HUMPHRY said they had been reminded that the Council was not making "laws," but only "recommendations," and what he wished was that they should not run into opposition to the great universities, because, if so, their recommendations would indeed cease to be law. At present those bodies had striven to bring themselves into accord with the regulations of the Council, and he knew what serious deliberations had been necessary at Cambridge in order to do this as far as they could. There was nothing so much to be desired, in order to promote the high education and gentlemanly tone of members of their profession, as that they should associate themselves with those great bodies which gave a truly liberal education. He hoped, therefore, that the Council would accept the resolution.

Mr. MARSHALL thought the question ought not to be decided in that way. It was quite clear the Council would not be unanimous. He did not see any great harm in making a communication to the different bodies of the changes already proposed by the Council without going into the mode in which they would affect any particular institution. No harm would be done by a little delay, and then the Council might ascertain what the bodies themselves had to say about those important changes.

The resolution was then put to the Council and lost, six voting for it and nine against.

Mr. MARSHALL then moved, "That the General Council's amended regulations for the preliminary examination of medical students be communicated to the examining bodies whose examinations are recognised by the Council; that their attention be drawn to the changes that had been made; that they be informed that these amended regulations will not come into force until October 1st, 1885; and that on and after that date no person will be allowed to be registered as a medical student unless he shall have previously passed a preliminary examination in the subjects of general education as specified in the following list," &c.

The resolution was seconded by Dr. STORRAR and agreed to.

With the consent of the mover and seconder, Dr. Struthers and Dr. Pettigrew, the following motion was referred to the consideration of the executive committee, "That the junior local examination of the University of Aberdeen, and the junior local examination of the University of Glasgow, be added to the list of preliminary examinations recognised by the Council; the certificates to include all the subjects required by the Council."

Owing to the evident desire of the Council to bring the business to a conclusion on that day,

Dr. HAUGHTON said that after a conversation with Sir H. Pitman he had decided to ask the Council for permission to withdraw two motions of which he had given notice, believing that the best place in which he could express his views upon them was in the lobbies of the Houses of Parliament. The motions were as follow:—1. "That, in the event of a conjoint scheme or schemes of curriculum and examination being adopted, it is not desirable to include in such schemes any university that can prove its curriculum and examinations to be distinctly in advance of the curriculum and examination contemplated in such scheme or schemes." 2. "That the Medical Act (1858) should be amended by requiring a degree or licence in each of the three subjects, medicine, surgery, and midwifery, to be produced to the Medical Registrar previous to the candidate's name being placed on the Medical Register."

Dr. QUAIN said that in a previous debate he had referred to a return showing the percentage of the licentiates of the College of Physicians who held the diploma of the membership of the Royal College of Surgeons. He then stated that "93 per cent. of the licentiates of the College of Physicians also got the qualification of the College of Surgeons voluntarily; but what was more strange was that 30 per cent. of them got the licence of the Apothecaries' Society." That statement was founded on an old return, but on examining the Medical Register of the last two years it was found that out of 100 licentiates of the College of Physicians, 134 held the M.R.C.S.E., and twenty-two the L.S.A.Lond.

MEDICAL LEGISLATION.

The following motion had been placed on the programme of the Council by Dr. LYONS:—

"That the Council consider the following propositions: (a) That a one-portal system can only be worked on the basis of a minimum. A minimum must necessarily paralyse intellectual activity in teachers and learners, arrest all forms of healthy competition, impede the progress of medicine as a scientific pursuit, and degrade the medical service of the public and the State. (b) A well-regulated many-portal system admits of being worked on the principle of competition upwards. Such upward competition can be secured by energetic supervision and control on the part of the Medical Council, with the best results to the public and the State. (c) To secure effective supervision, inspection, and control over teaching and examination, more direct power must be entrusted to the Medical Council by Parliament. The relations of the Medical Council with respect to the medical authorities and the Privy Council require to be reversed; the General Medical Council to be in the position of a court of first instance, with right of appeal on the part of the medical authorities to the Privy Council. (d) It does not appear to be either possible or necessary to enforce the *bonâ-fide* triple qualification in medicine, surgery, and midwifery universally. But no person should be allowed to practise midwifery whose name is not on the Register as possessing a special qualification. It will vitiate the whole system of registration if, for personal or other considerations, rigidity of examination in midwifery be relaxed to enable A, B, or C to fulfil colourably the clauses of a statute which shall pretend to enforce uniform triple qualification. (e) It appears to be a natural right that a representative body like the Medical Council, now probably to be endowed with larger powers, should be elected by a more extended representation of the profession than at present. This enlarged representative privilege may perhaps be most safely entrusted to the members of the medical authorities, taking a limit of years in practice, possession of special degrees, or other qualifications, as limitations. (f) The right of appeal will in all probability be exercised henceforth, and as the questions of appeal will involve special expert knowledge, it seems but proper that special and expert knowledge should be represented on the Courts of Appeal."

Dr. LYONS said he desired to say a few words in explanation of his bringing forward these very important resolutions. It appeared to him that the time had almost come in the history of the Council when it would be proper for that body to give its consent to some such propositions as he had drawn up. He could not, however, be blind to the fact that the present time was inopportune for their discussion, at the close of a period of as close and continuous study on the part of members of the Council as he had ever been called upon to go through. He thought that notwithstanding the cloud that at present appeared on the political horizon, there was strong reasons for believing that next year medical legislation would come to the front. He believed that the public desired more specific information with regard to the views of the Council upon that legislation than it at present possessed. Members of Parliament said, "Why do not you and the Medical Council take this in hand—you who can deal with it so much better than we of the House of Commons alone can hope to deal with it?" Representing as it did every constituent in the medical profession, the Council could no doubt offer great assistance in the settlement of matters which must appear complicated to those outside. One important point to be considered was the power to be entrusted to the profession at large in regard to its regulation and government through a body like the Medical Council. They knew that public opinion had taken a particular direction in regard to a general system of representation, and there was no doubt good ground for demanding it. At the same time they might be guided with a direction that would give full and complete satisfaction to the profession without bringing in the somewhat disturbing element of universal suffrage. He was, if he might venture to say so, in favour of a large extension within proper limits within the profession, and within the bodies corporate forming the profession, of the area of the suffrage by which men could properly be returned to the various bodies represented in that Central Council. With reference to medical legislation, it would be a great advantage if the Council were to consider the lines upon which a measure might be drawn up; for even if it should not run exactly on the lines on which the Legislature intended to work, both schemes might be considered by a select committee, and a Bill drawn which would include the best ideas emanating from both sides. Having made this general statement of the objects he had in view, he would for the present, considering the lateness of the session, withdraw his propositions, reserving to himself the right to reintroduce them at a future sitting of the Council.

The propositions were then, by leave of the Council, withdrawn.

The following letter to the President from the Master of the Society of Apothecaries in London, on the subject of the exclusion of that Society from the Conjoint Scheme, was read:—

[COPY.]

Apothecaries' Hall, Oct. 15th, 1884.

DEAR SIR HENRY ACLAND,—I beg leave to acknowledge the receipt of the several reports of the meetings of the General Medical Council during the past week, which have been forwarded to me as Master of the Society of Apothecaries. Permit me to point out to you a serious discrepancy in these reports, which materially endangers the interests of the Society. It will be in your recollection that when a Conjoint Board for England was originally proposed (see "G.M.C. Revision," June, 1877), the Society of Apothecaries could not then join in the movement with the two Royal Colleges. In order to do so we were compelled to make important sacrifices and surrender certain powers and privileges. The basis of that scheme, approved and adopted by the General Medical Council in February, 1879, consisted in giving a majority of examiners in medicine to the Royal College of Physicians; the Society was accredited with a majority of examiners in chemistry, materia medica, &c.; whilst the departments of surgery, anatomy, &c., were to be undertaken by the Royal College of Surgeons, since the Apothecaries Act does not confer the power of examining in surgery for our licence. Final arrangements were further made for carrying out the three portions of the Conjoint Board in its examinations: the first was to take place at the Apothecaries' Hall, the second at the College of Surgeons, and the third at the College of Physicians. From this scheme the Royal College of Surgeons withdrew some time after the above arrangements. In your address on Oct. 7th you suggest the adoption of three short classes legally binding on the examining boards, in the first of which the Council shall not admit to the Medical Register any person who has not passed an examination satisfactory to the Council in medicine, surgery, and midwifery. The Society of Apothecaries adopted the scheme of 1878-9 upon these very grounds, and which the General Medical Council approved and sanctioned at that period. But now it appears that the Council have negatived their four resolutions in rejecting the amendments marked A, B, C, and D to Sir H. Pitman's motion of Oct. 9th, 1884, by which (if and C amendments specially) the Society of Apothecaries is refused the privilege of co-operating with the above-named Colleges, though the General Medical Council had previously agreed to adopt the scheme above referred to. In deference to the judgment of the General Medical Council, it appears that two errors are now committed: one of injustice in allowing the two Colleges to combine at all after the decisions of 1878-9; the second is a still greater injustice, in excluding the Society of Apothecaries, who were the parties most interested in that scheme, and who had made the greatest sacrifices in furthering the views of the General Medical Council in their Recommendations. I wish to press upon the attention of the General Medical Council that the Society is still willing to recur to the original project as laid down by the Committee of Reference in their report of the co-operating medical authorities, and approved by the General Medical Council, February 1879, Parts 1, 2, and 3.—I remain, dear Sir H. Acland, yours truly,

GEO. COPE.

Sir H. ACLAND, President of the General Medical Council.

A proposition that the letter be placed on the minutes was negatived.

Dr. LYONS proposed: "That a committee be appointed to consider the question of a new, more wholesome, and more suitable place of meeting for this Council, whether by renting some more suitable building, or by the erection of a new structure; and that the said committee be requested to report to the Council at its next meeting."

Dr. WATSON seconded the proposition, which was agreed to, and a committee was appointed comprising Dr. Lyons, Sir Henry Pitman, Dr. Quain, Mr. Marshall, and Dr. Storrar.

This concluded the business, and after a few remarks from the President as to the time of their next meeting, the session terminated.

New Inventions.

GLYCERINE PAD PESSARY.

THE pessary here depicted is identical in construction with that invented by Dr. Greenhalgh, and called the "air pad pessary." Pessaries inflated with either air, water, or padded with moc-main or other substances, after a short period invariably become useless, as air escapes,

water evaporates, and padding becomes hard. This invention is intended to obviate these defects; the padded end is filled with glycerine, which always remains soft, and yet offers sufficient resistance to render the instrument effective. The pessaries are made by Messrs. Arnold and Sons of West Smithfield.

THE LANCET.

LONDON: SATURDAY, OCTOBER 25, 1884.

THE *magnum opus* of the Council, at its late meeting, was the discussion on Preliminary Education. It was commenced by Sir HENRY PITMAN, who soon perceived the questionable nature of the work, and evidently wished to recede from it. But the Council kept him to his resolution, and spent days over the subject. The chief objects were, as Dr. HUMPHRY put it, to limit the area of subjects in the Preliminary Examinations and to raise the quality of the examination. The chief results were to exclude English history and modern geography from the examination. The English language itself as a special subject of examination, as it is now, had a narrow escape, even Dr. HUMPHRY and Mr. SIMON proposing to ascertain the candidate's knowledge of English merely indirectly, from his answers to questions. But the patriotism of all the nationalities saved the Council from this discreditable result. A thoroughly sound examination in English would of itself be no mean Preliminary Examination, and the proposal to omit it was certainly a new anomaly in this most anomalous body.

One marked feature of the meeting was the disposition to recognise the Branch Councils more than has been hitherto the practice, and to give them work to do. This disposition found marked expression in a motion of Mr. SIMON'S, pledging the Council at its next meeting to reconsider its Recommendations on the subject of the age for licence to practise and of professional education and examination, and requesting the Branch Councils in the meantime to review these Recommendations, to confer with the licensing bodies in regard to them, and to communicate to the President any suggestions they may have to make for their amendment. It is hoped in this way to bring the question before the General Council in a state much more fit for discussion, and to avoid waste of time. Apart from experience of the working of the Council, one would willingly join in such a hope. But in the light of our knowledge of the Council and its ways we can hope for little from such an attempt to give the Branch Councils serious work to do. They will be likely to waste much time and money over their own parochial discussions, and to come to the General Council only the more determined to assert their national peculiarities, and to base on them objections to regulations intended to promote fairly equal arrangements and examinations in each division of the kingdom. Sir HENRY ACLAND, indeed, magnified the motion. He had little doubt that if the motion were carried, it would prove to be one of the most important acts that had ever taken place since the formation of the Council. It would carry out the spirit of one of the most important recommendations of the Royal Commission—viz., that a portion of the work of the Council should be done by the Branch Councils. Sir HENRY is a charitable man. He has that happy suavity of mind that can see the best of all arrangements and forget the worst. We shall not try to discourage him or to undeceive him. We will only remind him that it is one thing to take the Recommendations of the Royal Commission in their entirety, or even in the order of their importance, and quite another to pick and choose: to take that which is agreeable to the whims of the nationalities, and to refuse that which is meant to make them work together for the good of the whole empire. Sir HENRY ACLAND is by far the most responsible man in the Council. He is so by reason of the office he holds, and to which he has been no less than three times elected. He is so still further as being one of the few members of the Council who has been such from the beginning, and who, in spite of his charitable and optimistic nature, must be convinced that the Council works badly, and never will work well. He is so, finally, as holding a position of considerable independence in the profession and in the Council. He is no doubt high in the Councils of the College of Physicians, but he is mainly identified with the ancient University of Oxford, and as such ought to look at questions of medical education from an independent point of view. There is no man who has greater opportunities, and if he liked to use them, greater powers of convincing men of different schools and nationalities of the undignified position in which they have placed themselves and the Council by their opposition to the Government views of reform. By such a use of his opportunities and his powers he would do a service to medical education and the medical profession which cannot be over-estimated. But he must cultivate a little more of the *fortiter in re* if he is to achieve this service, and to leave his mark on the medical profession of the future. He cannot but have been pained to learn from the letter of the Vice-Chancellor of his own University, from Dr. HAUGHTON, and others, how lightly the Recommendations of the Council are esteemed by the great universities. He must have been similarly affected when he heard from Sir HENRY PITMAN—after all the labour of the Council in formulating Rules for preliminary examination in mechanics three years ago—that in the past year of 274 candidates examined by the College of Preceptors only four passed in Mechanics. The President must be under no delusions. He must not imagine that the reference of a subject to Branch Councils will make up for the loss of the Medical Bill. The "wicked will do wickedly," and the Medical Council will act according to its nature—incompletely, inharmoniously, and ineffectually.

Dr. LYONS, indeed, still dreams of medical legislation, or rather of an ambitious minister being still desirous to succeed where others have failed. This is very likely. But Dr. LYONS is a very sanguine man. He must think with exaggeration of the patience of ministers if he imagines much of it can survive the notice of 185 amendments in a Medical Bill, including one of his own, for achieving no less a feat than an alteration of the constitution of the House of Lords. No; only one of two or three things can make medical legislation possible. The chances of an election that might remove men from the House who have so terribly wrecked the train of medical reform; a radical alteration in the rules of the House, fitting it to work instead of to talk; or the influence of a man like Sir HENRY ACLAND, who could be suspected of no personal or official purpose in trying to convince medical bodies and public men how

lamentable is the powerlessness of the Medical Council, and the sentiment of disrespect for it entertained in the profession.

IN his address at the Medical Society of London, which we print in our columns to-day, Sir JOSEPH LISTER deals in his own accurate and scientific way with the use of corrosive sublimate as an antiseptic surgical dressing. To learn that this is the "newest" antiseptic agent may perhaps suggest the reflection that "there is nothing new under the sun," for the use of corrosive sublimate as a dressing dates far back. Quite recently, however, it has been introduced into practice as a good substitute for carbolic acid, iodoform, and the other powerful antiseptic agents with which we are familiar. It has been largely used on the Continent, and some of our own countrymen have employed it for some time with, we believe, considerable success. Dr. PAUL BRUNS has just published in LANGENBECK'S *Archives* (Bd. xxxi. H. 1) a short paper containing his results of the use of this antiseptic agent for a period of fifteen months. He has employed it in the form of a lotion (1 in 1000) for cleansing and irrigation, and has used for his dressing "wood-wool," or a mixture of "wood-wool" and cotton-wool impregnated with a one-half per cent. solution. He has found it to afford complete protection against erysipelas and other wound diseases, and states that he has obtained the primary healing of wounds with greater frequency by this than with other forms of antiseptic dressing. Of a total of 557 cases of operation and accidental wounds thus treated only 10, or 1·7 per cent., died; the causes of death in these cases were diphtheria (2), croupous pneumonia (2), miliary tuberculosis (2), ileus (2), amyloid degeneration (1), and shock (1). Much of the success thus recorded is to be attributed to the fact that the dressing was a "dry" dressing, and was allowed to remain unchanged for periods varying from one to three weeks, and that equable elastic compression of the parts was maintained all the time. It is an error to suppose that the nature of the antiseptic agent used can exert any direct influence over the primary healing of the wound, provided only that it be not so severe an irritant as to excite inflammation. Primary healing is a natural process, governed by laws of which we know at least as much as this. The antiseptic prevents the development of organisms which would interfere with primary healing and expose the patient to the danger of systemic infection; but provided the antiseptic be not itself an irritant, and the other essential conditions be complied with—such as rest, coaptation of surfaces, fixation, absence of tension,—primary union takes place quite independently of the nature of the particular antiseptic agent employed.

Sir JOSEPH LISTER'S experiments detailed in his address throw a flood of light upon the practical application of the sublimate. It is obvious that this substance offers great advantages as an antiseptic agent. It is cheap, non-volatile, very readily soluble, and extremely potent as a germicide. But Sir JOSEPH saw that its practical value must largely depend upon the strength in which it can be used without causing local irritation or general poisoning, and also upon the effects produced by an admixture with the albuminous fluids of the body. It is well known that albumen yields with corrosive sublimate an inert coagulum of a so-called albuminate of mercury and there appeared some ground for the fear that serum or blood soaking into a sublimate dressing might destroy its antiseptic properties, and destroy its power of protecting against decomposition. The large proportion of albumen in blood and wound-discharges, and the necessary dilution of any sublimate dressing, made this additionally probable. By experiments, however, he demonstrated that this inert coagulum of albuminate of mercury is soluble in excess of albumen, and that this new solution, containing possibly a double albuminate of mercury, retains all the antiseptic virtues of the original sublimate solution, whilst its irritant properties are greatly mitigated. For the details of the conclusive experiments by which Sir JOSEPH has proved these points we must refer to the report of his address. The fact that the inert coagulum of "albuminate of mercury" is soluble in excess of albumen is by no means new. The caution not to give an excess of albumen in cases of corrosive sublimate poisoning lest the coagulum at first formed should be redissolved is insisted on by teachers of toxicology; and SQUIRE, in his Companion to the Pharmacopœia published in 1877, states that the white of one egg is equivalent to four grains of the sublimate, and that more than that proportionate amount must not be taken. By using, not a simple solution of sublimate, but a solution of this double albuminate or sero-sublimate, Sir JOSEPH LISTER obtained a cheap, fixed, and very powerful antiseptic, which is totally devoid of poisonous or irritating properties in any strength in which it may be necessary to employ it. In this, then, we appear to have an agent possessing for surgical purposes nearly all the properties of a perfect antiseptic. Professor LISTER has employed a gauze saturated with 1 in 100 of this double albuminate, and he has found it as trustworthy as the best carbolic gauze, Its use in some measure simplifies an antiseptic dressing, for it renders unnecessary the protective and the impermeable mackintosh cloth. The sublimate solution cannot be employed for cleansing instruments, and is less penetrating than carbolic lotion, which is therefore superior to the sublimate for cleansing the skin around a wound. It is efficient when used to irrigate a wound, and can be employed as a spray, but its action on instruments renders it for this purpose far inferior to carbolic acid.

Sir JOSEPH LISTER did not confine himself to a consideration of the surgical uses of corrosive sublimate, but somewhat incidentally mentioned certain other important facts. He alluded again to the circumstance that, although iodoform is a very powerful preventive of putrefaction, it is not a safeguard against erysipelas, that it is not a potent germicide, and delays but for a short time the lactic fermentation of milk or the ammoniacal fermentation of urine. He stated that he had met with imperfect results while using eucalyptus gauze, and in one case had to record a death from septicæmia. This was due, not to the failure of eucalyptus to prevent the development of septic organisms, but to the fact that the gauze had been carelessly prepared, and the volatile antiseptic had been allowed to evaporate. This is a source of danger in the case of all volatile antiseptics that requires to be kept constantly in view, and unquestionably accounts for many failures to obtain the usual results of aseptic surgery. One of the most remarkable facts presented by Sir JOSEPH LISTER was in reference to a blood-clot which he exhibited

to the meeting. The blood, which was from a horse, had been drawn into a glass vessel rendered aseptic by corrosive sublimate; it coagulated in the usual way, but even in an interval of several weeks not the least contraction of the clot had taken place. Sir JOSEPH had met with the same result in some cases where the blood had been drawn into vessels rendered aseptic by heat, and had suspected that it might be explained by some special physical change produced in the glass by heat. Without stating that the absence of living organisms was the cause of the non-contractility of the coagulum, Sir JOSEPH LISTER remarked that the fact pointed in that direction, and he was unable otherwise to explain it. The practical interest of this fact is immense, and we hope further light will be thrown upon it.

A MAJORITY of the members of the General Medical Council, after two days' discussion, has, for various and even contradictory reasons, sanctioned the proposal of the Royal College of Physicians of London and of the Royal College of Surgeons of England to co-operate in order to form a common joint examining board for granting their respective diplomas in medicine and surgery. Sir HENRY PITMAN, representative of the College of Physicians, moved, and Mr. MARSHALL representative of the College of Surgeons, seconded, that the Council should give its sanction to this proposal. After several amendments had been proposed and negatived the original motion was put to the vote, when fourteen of the twenty-four members of the Council voted for its adoption, while the remaining ten did not vote. Though carried, the motion therefore received the direct and active approval of only a very small majority of the Council. Apart from the importance of the matter at issue, it is worth while to consider the character and constitution of this majority. There were the two representatives of the English Colleges; a gentleman who, though nominally representing another body, receives over £400 a year as a member of the Court of Examiners of the Royal College of Surgeons; and all the (five) representatives of the Scotch universities and corporations. In other words, at least eight of the fourteen members of the Council who voted in favour of the adoption of Sir HENRY PITMAN'S motion represent or are otherwise interested in institutions that are likely to be more or less affected by the change. By combining with the College of Physicians the College of Surgeons doubtless hopes, among other things, to do something to wipe out the stigma and reproach of having for eighty-four years sold a qualification for practice which implies no satisfactory guarantee of proficiency in medicine and midwifery; while the College of Physicians sees an easy way of greatly increasing its income if every applicant for the Surgeon's diploma can, *nolens volens*, be forced to pay its fee of fifteen guineas for examination in medicine and midwifery. On the other hand, the representatives of the Scotch universities and corporations, with characteristic and perhaps truer foresight, anticipate that English students will not permanently submit to the extortion of paying thirty-six guineas for a so-called "double" qualification, which may be obtained in Scotland at considerably less cost in labour, thought, and money. They probably also foresee that students may likewise discover the advantages of pursuing their professional studies where they will be examined, and of receiving their instruction at the hands of those who will eventually examine them. Time alone will prove which is the truer forecast, that of the English colleges or that of the Scotch examining bodies. Meanwhile, the Council of the College of Surgeons, with remarkable promptitude and dexterity, has taken steps to give immediate effect to the combination. In its zeal it has even resolved that the regulations shall be retrospective. The sanction of the General Medical Council was formally given on the 9th inst., and exactly a week later the Council of the College of Surgeons resolved that the Regulations should have force from the 1st inst. Whatever of good there may be in the combination, the plan of carrying it out is faulty, and, above all, the fee is impolitic, extortionate, and unjust.

THERE are few diseases which in their origin, mode of development, and course better harmonise with the doctrine of a dependence upon pathogenic micro-organisms than diphtheria. Its contagiousness, the character of its local manifestations, the manner of extension of the false membrane, and the varying intensity of the general symptoms, apparently due to the absorption of a more or less virulent poison—these and other clinical facts of the disease can admit of but little explanation, except that afforded by the germ theory. Hence it is that the attention of pathologists was early directed to diphtheria; and yet in spite of many elaborate researches the precise nature of the diphtheritic virus is still a matter of doubt. Of those who have studied the question from the pathological and experimental side, the majority declare in favour of a specific micrococcus; which is to be found not only embedded in the membranous deposit, but in the lymphatic spaces beneath the mucous membrane, in the blood, and in internal organs. Amongst those who have declared in this sense are OERTEL, EBERTH, and KLEBS, and the most recent advocates are Drs. H. C. WOOD and H. F. FORMAD of Philadelphia. Their report, which is intended as an Appendix to the Report of the National Board of Health, 1882, is issued this year in a separate form, but we regret to add that the character of the letterpress, and of the illustrative engravings, is wholly unworthy of so important a document. In spite of these very obvious blemishes, it is plain that their work is the outcome of much painstaking research, microscopical and experimental, although it is not easy to extract therefrom any very definite and precise conclusions. This, however, may be said: they find invariably in the membranous exudations of diphtheria masses of micrococci, which are indistinguishable from similar organisms found in the buccal and pharyngeal mucous membrane in other conditions. In many cases, especially those which occur in epidemics, rather than in sporadic cases, similar organisms were detected in the blood and various internal organs. They are to be found in epithelia and in the substance of white blood-corpuscles. Cultivation experiments prove that they multiply best at a temperature between 37° and 40° C., and they do not appear to require a large supply of oxygen to maintain them. Inoculation in rabbits produced varying effects, according as the original source of the virus was from a malignant or a mild case, in the former case a fatal result being rapidly brought about, whilst in the latter often but slight effects followed. In fact, the report tends to show

that the diphtheria micrococcus is identical with a non-pathogenic organism, and that in its history we have an instance of that assumption of virulent properties in particular conditions, which Dr. KLEIN has proved to be of such rare occurrence. And as to the membranous inflammation that characterises diphtheria, that is not the special result of the virus, but only an index of intense inflammatory change.

LOEFFLER, in his lengthy memoir contributed to the second volume of the Reports of the German Imperial Board of Health, recounts an extensive experimental inquiry upon diphtheria in animals and man. He, too, confirms the fact that micrococci prevail in the diphtheritic membrane, mingled with other forms of bacterial life which find a suitable nidus in the necrosed and decomposing tissue. But he lays more stress, from the etiological point of view, upon the presence of a bacillus the detection of which was first made by KLEBS—an organism that invariably occurs in association with the micrococci, but presenting far more than those the attributes of a specific virus. Thus, whereas inoculation experiments with cultures of the micrococcus were for the most part negative, cultures of the bacilli proved very virulent in action, at least on guinea-pigs. LOEFFLER'S research upon diphtheria in pigeons and calves pointed to the probability of the disease in animals being due to a variety of bacillus different from that which excites it in man. But in every case the diphtheritic process would seem to be at first entirely local, the constitutional effects of the disease being due to a poison developed by the specific organism at the original seat of attack.

EMMERICH (*Deutsch. Med. Woch.*, No. 38) has arrived at different results from any hitherto recorded, the material for his research being furnished by eight severe cases of human diphtheria and six of the same disease in pigeons, the latter obtained from a Munich fancier who last spring lost seventy young birds from the disease. The micro-organism which EMMERICH claims to be distinctive, which occurred in the diphtheritic lesions both of the pigeon and of man, is neither a coccus nor a bacillus, but a short, thick bacterium, which in gelatine cultures forms a pellucid greyish colour, assuming a whiter appearance as it develops, and not liquefying the gelatine. Upon potato it forms a thick yellowish-white layer, thriving luxuriantly; but in blood serum this bacterium does not grow well. In form, size, and mode of growth the diphtherial bacterium of man is identical with that of the pigeon. Moreover, inoculations were readily and successfully practised with pure cultures of this organism. Pigeons, rabbits, and mice were subjected to such experiment. A culture obtained from a diphtheritic membrane in a child was applied to the tracheal mucous membrane of a rabbit. The animal died in three days, exhibiting a dirty yellow infiltration of the tracheal mucosa, which was also coated with a coherent croupal membrane. Similar effects followed inoculation in the pigeon. These bacteria were also obtained from the blood, liver, spleen, and kidneys, and cultures of them derived from those regions were used for inoculation with like results to those directly made from the diphtheritic membrane. The symptoms produced in the pigeon by inoculation from human diphtheritic membrane were identical with those occurring in the spontaneous disease. The bacteria were met with in the blood and internal organs, especially the kidneys, of all the animals so inoculated, and the characteristic colonies obtained in cultures from these. Frequently the number of bacteria was too small to be detected microscopically, but their presence was ascertained on cultivation.

This cursory sketch will suffice to show that amongst the bacteriologists themselves very great differences of opinion prevail as to the morphology of the diphtherial fungus, and the list might be greatly extended if the older notions of more highly developed fungi being specific to the disease were included. But there is also lacking unanimity upon the mode of action of the parasite—e.g., the necessity of its being conveyed bodily into the blood, or whether a poison is developed at the locality of inoculation, which being absorbed produces the general malady. On either view, the doctrine that diphtheria is at first a local disease, and that the constitutional symptoms depend upon general infection from this local lesion, is the one to which all investigations tend, and this most harmonises with our clinical knowledge. EMMERICH thinks that researches such as his should incite us to redouble our efforts to ascertain the conditions under which the diphtherial germ can exist apart from the body; and in this regard special attention must be directed to the condition of dwellings. He reminds us of the explanation he found of the recurrence of outbreaks of pneumonia in Arnberg prison, and in the discovery of the pneumonia micrococcus between the floors of the building. Diphtheria, he thinks, is essentially a house-disease, prevailing in those seasons in which dwellings are most likely to be overcrowded. Measures of prophylaxis based upon bacteriology must, however, lie in the future, and most of us will be content with the enforcement of general hygienic laws without reference to the supposed habits of a special form of micro-organism. The actual treatment of the disease by the early and efficient destruction of the local manifestations, the best means of doing this, and the methods of combating the severe constitutional depression which marks the further progress of the malady, are questions which have always engaged the attention of physicians since diphtheria came to be recognised as a distinct entity.

THE time is rapidly approaching, if, indeed, it has not arrived, when some serious attempt must be made, in the interests of public morality not less than of personal health and happiness, to place the question of insanity in relation to suicide on an intelligible footing. It will not be denied, and it can scarcely be doubted, that as matters now stand there is, and always must be, a sentimental impulse in the mind of every juryman, of every coroner, of every medical witness, to give the fullest benefit of the doubt, whenever the least colourable reason for doubt or question can be discovered, as to the alternative hypotheses of culpable self-murder and irresponsible suicide. It is only natural that there should be this desire, and it will always exist, so long at least as grievous penalties are attached to the crime of self-murder—penalties which are now felt to be visited on the bereaved friends rather than on the offender. In the old days, when burial according to the rites of a Church was held to ameliorate the final or intermediate state of the departed, the penalty of burial with maimed

rites, or without any religious service at all, was felt to be one of extreme severity; and probably the dread of such treatment after death may have acted as a deterrent. Those days have passed, and popular feeling is changed too, whether for better or worse is not the question before us. The fact we have now to face is that, particularly since the insurance companies generally have made assigned policies indisputable, there has been nothing beyond a vague dread of undefined contingencies to influence for good the mind of the intending suicide. It is almost certain that, except in the most flagrant case of suicide by a murderer, the verdict returned will be one in which "temporary insanity" is hypothecated to clear the charge and wipe out a possible blot on the family escutcheon. Our present contention is that it is important that there should be some rational endeavour to make the distinction between insanity and life-weariness apparent.

Are we about to allege that a coroner's court and jury constitute a tribunal before which the issue raised in hese cases can be intelligently or justly tried? Most certainly not. Nothing could well be more at variance with our view. We think such an issue as this can only be decided by a medical judgment, and even by that with great difficulty, when there is no trustworthy evidence as to the actual state of the mind of the deceased person shortly or immediately before death. It is not, we hold, except in rare instances, practicable to form any good inference as to the state of the mind from the manner of the death. Of course, if, as occasionally happens, the mode of self-murder is in itself conclusive evidence of insanity, that may be available as proof of the existence of mental unsoundness, but in ordinary cases of suicide by drowning, hanging, cutting the throat, or taking poison, this inference is impossible. Again, absence of apparent motive is valueless, because "the heart knoweth its own bitterness," and under the calmest exterior there may be hidden a hell of remorse or despair from which even the sane mind seeks to escape, at all hazards as to the future. Such conceits as that no sane man would kill himself unless he were in the immediate presence of the extremest personal suffering or ignominy, or that the mind must be unsound that refuses to believe in a future, are too puerile to call for serious discussion. It must be admitted, whether we like it or not, that "self-destruction" is a mode of exit from this world of worries and disappointments which men and women in perfect enjoyment of their senses have in all ages from time to time adopted. What or who, then, is to determine, in any particular instance, whether self-murder was committed with a sane or with an insane conscience and purpose? We are bound to confess that, except in the extremely rare cases to which reference has just been made as implying insanity by the mode of death selected or carried out, and even in these cases great care needs to be exercised, there is positively no evidence available, and no means of forming a judgment outside, or in addition to, the inference deducible from the story of the deceased person's life.

We are strongly of opinion that this life-story, so far as it can be ascertained, ought in every case to be submitted to a committee of experts, and that no coroner's court or jury should be empowered or permitted to adjudicate on the issue "sane or insane?" let the dependent consequences be what they may. There is no need to hurry a judgment. The exceptional verdict which carries with it the penalty of interment at uncanonical hours, in unconsecrated ground, and without religious ceremonial, is, as we have said, never returned except in cases of murder, as well as suicide, and when the circumstances are so clear that no doubt or question can afterwards arise. All other cases should, we repeat, be reserved, and the issue of sanity or insanity carefully worked out. The interests of society require that this or some other precise procedure should be adopted. Suicides are on the increase, and, setting aside all questions of retributive or deterrent penalties for the crime of self-murder, it is imprudent to brand the craven crime as an act of ignominious cowardice, which, indeed, it generally is. We do not believe in "temporary insanity" as a common cause of, or excuse for, self-slaughter. We believe the great majority of persons who die by their own hands do so with an intelligent consciousness of what they are doing. It is not their psychical, but their moral, condition which is at fault. They want to flee from the trials and troubles of life. They do not like to be disappointed and indigent; they "cannot bear" the loss of property or friends. They are unable to face the ignominy of some exposure, or they find consciousness unendurable on account of some secret poignant remorse. These are the *true* causes of suicide, and the self-murderer takes life in a state of excitement it may be, indeed is likely to be, but he is as sane for all practical purposes, and in a scientific sense, as those around him, who are perhaps equally tried, but more patient. We fully and clearly recognise that mind is brain-function, and we are not forgetful of the way in which the mental part of man's nature acts upon, and reacts from, his physical organism; but we are not materialistic enough, yet at least, to look upon the human organism, with its consciousness, as a mere machine or apparatus by means of which correlated, concordant, divergent, and antagonistic forces work out a mean mental result. Until we do, if ever we do, arrive at this finality of surrender of all that is noble or even worthy in man, we must insist that the laws and usages of the community should be so ordered as to provide and supply incentives to right conduct and self-control, and deterrents from wrong-doing and self-surrender to passion and impulse. The charity that makes coroners' juries return verdicts of "temporary insanity" covers a multitude of sins—sins that ought not to be committed, and cannot safely be condoned.

MR. J. NOAKE, Severn conservator, in a recent letter to *The Times* states that the fact that some sort of fish are well known to congregate at the mouths of sewers seems to imply that diluted sewage is attractive to these fish, either as an alterative in their diet or medicinally, and otherwise grateful to the piscine stomach. During the late summer salmon disease has entirely disappeared from the Severn, although, owing to the length and extreme heat of the season, the Severn was correspondingly low, and therefore must have been, in proportion to the small quantity of water, more than usually polluted.

A DEPARTMENT of hygiene and bacteriology has been opened in connexion with the chemical laboratory of Prof. Fresenius at Wiesbaden. Dr. F. Hueppe, who has done much work under Dr. Koch at Berlin, has been appointed to the charge of this department.

Annotations.

"Ne quid nimis."

"A DOCTOR'S HEROISM:" SAMUEL RABBETH, M.B. LOND.

ON Friday, the 10th inst., a child aged four years, in the Royal Free Hospital, Gray's-inn-road, suffering from diphtheria, was threatened with suffocation, and to avert this Dr. Samuel Rabbeth, the senior resident medical officer, performed the usual operation of tracheotomy. The obstruction of the breathing was not relieved by the operation, and to save the child from the immediate danger of death by asphyxia Dr. Rabbeth, without the slightest hesitation, and well aware of the nature of the disease and of the peril involved, sucked the tube and cleared it of the obstructing membrane. The child was saved for a time, but afterwards sank and died. On Monday, the 13th, Dr. Rabbeth felt ill and weary; on the 14th symptoms of sore-throat appeared; during the next day or two diphtheritic patches were seen on his fauces and palate, and he expectorated large flakes of false membrane; on the 18th he was much worse; on the 20th he became cyanosed, and in the evening, about 7.30, he expired in a paroxysm of dyspnœa, which had lasted from two to three minutes. Needless to say, everything that colleagues and friends could suggest was tried. Drs. Cockle and West attended him, and Dr. Sainsbury was with him continually during his illness. Dr. George Johnson saw him on Monday afternoon, but the symptoms gave no ground for hope. He had expelled a complete cast of the trachea and one bronchus in a single piece and his exhaustion was extreme. The immediate cause of death was probably due to the formation of a clot in the pulmonary vessels. Such is, in brief, the melancholy story of the death of one of our young doctors, and the startling character of the narrative has brought forth a eulogium from many of our contemporaries. Single-hearted devotion to duty demands such a eulogium, and we are glad to find that the world can occasionally recognise and praise a hero in our profession as well as in others. To us it seems braver for a surgeon or physician to risk his life for a patient with no claims on his self-sacrifice or gratitude than for an officer against all odds to endeavour to save his comrade from the foe, even though that comrade be only a private soldier. There are ties of comradeship on one hand, duty only on the other. Many doctors die silently and unknown in the faithful discharge of their duty; cases like this move the public sympathy and teach them some of the perils of the profession and the spirit in which doctors have been taught to deal with them. Dr. Samuel Rabbeth was the son of one of the most trusted officials in Messrs. Coutts' bank in the Strand, and was educated at King's College School. He entered in the Easter Term of 1869, being then twelve years old, and steadily worked his way up to the highest form in 1876. In 1877 he matriculated at the University of London, and on the 1st of October entered the Medical Department of King's College. He passed the preliminary scientific and 1st M.B. Examinations of the University, and in 1880 gained a prize in Clinical Surgery and certificates of honour in other subjects. In the next year, having taken a medical diploma, he was appointed Assistant House Physician to King's College Hospital, and in the following May became full House Physician. In 1883 he obtained the Scholarship and Gold Medal in Midwifery at the M.B. Examination of the University, and was elected an Associate of King's College. In April, 1884, he succeeded his friend and fellow-student, Mr. R. Brooks, as Senior Resident Officer at the Royal Free Hospital, so that he had only held the appointment for some six months. In conclusion, we may add that apart from rapid perception and great intelligence, Dr. Rabbeth was always remarkable for decisive action and able organisation. His unselfishness was as marked in his student career as in the noble act which caused his death. Invariably genial and cheerful in the company of his fellow-students, as able in games of skill as in the examination-room and by the bedside, courteous to his superior officers, beloved for his many kindnesses by patients, nurses, and junior pupils, everyone with whom he had come into contact is now regretting his death as a personal loss.

EXAMINATIONS FOR PROMOTION IN THE ARMY MEDICAL SERVICE.

WE regret to learn that a considerable amount of discontent has been called forth by the recent Army Circular on the subject of examinations previous to promotion in the Army Medical Service. We have always held that the abolition of the examination of surgeons in 1874 was a great mistake, and that, in the interests of the soldier, it was requisite that means should be taken to ascertain that the medical officer, after obtaining his commission, had continued his studies with a view to keeping up and increasing his professional knowledge. We do not think that any reasonable objection can be raised to the resumption of such examinations, and on this point we believe the discontent is confined to a very small body of officers. It is to the examination of surgeons-major before they can be selected for promotion to the grade of brigade surgeon that exception has been chiefly taken. It has been stated to be an insult to officers who have attained the rank and the age of the surgeons-major to call upon them to submit to an examination. We confess that we cannot look upon it in that light. Among the improvements which have been introduced into the department has been the selection of officers for the administrative ranks, instead of the old disastrous system of giving it by seniority, irrespective of all other considerations. But if a selection is to be made, it is not unnatural that the Director-General should desire to be satisfied that the officer to be selected is acquainted with the rules of the service and the nature of the duties which he will be called upon to perform. It has been stated by some of the non-contents that brigade surgeons are not administrative officers; but they are liable to be called on, in certain circumstances, to perform administrative duties; and it appears to us better that they should be required to prove their fitness at an early period of their service rather than when they are just approaching its close. With one exception the subjects stated in the circular as those with which he must prove himself acquainted are all administrative and sanitary, and are such as every administrative officer ought to know well. The one exception is—"Questions on operative surgery and practical medicine will also form part of this examination." We think it would be judicious if the Director-General were to expunge this paragraph. The officers will be required to prove their knowledge of these subjects before promotion to the rank of surgeon-major, and it appears unnecessary again to subject them to an examination upon them. There does not appear to be any greater insult in examining a surgeon-major on those points relating to special duties than there is in the College of Surgeons examining members before admitting them to the Fellowship. On one point the circular is not explicit: it does not state at what period of his career an officer may present himself for the examination. If he is permitted to do so shortly after attaining the rank of surgeon-major—that is, after twelve years' service—he will still be comparatively a young man. We think there is much to be said in favour of an examination, in the interests alike of the patients and the medical staff; but we would suggest that it should be taken at as early a period as may be convenient, and that it should be confined to administrative

duties and to the organisation and working of the department and its relation to the other branches of the service.

BLOOD-PRESSURE IN AORTIC DISEASE.

THAT the arterial pressure is not, as commonly supposed, diminished in aortic insufficiency is the outcome of a clinical and experimental research by MM. Potain and Franck, who related their results at the meeting of the French Association for the Advancement of Science. M. Potain said that although the sphygmograph appeared to show a diminution of the blood-pressure, it was really inadequate to do so, and he exhibited a series of tracings taken simultaneously from the same patient, which showed remarkable variations. The sphygmograph, whilst indicating the relation between the propelling power of the heart and the peripheral resistance, does not inform us of the absolute cardiac force. An instrument invented by Bach attempts to supply this defect; it consists of a rubber bag connected with a manometer by a tube of the same material, and it yields fairly accurate results. By its use M. Potain studied the blood-pressure in fifteen cases of aortic insufficiency, simple and complicated, and found that in the former group at any rate the pressure is equal to, or even higher than, the normal. In one case only was it lower, and that was complicated with phthisis, and had probably some myocardial change. When insufficiency is not pure the pressure may descend below the normal. From these results it is argued that the old idea referring all the symptoms of aortic regurgitation to a diminution in the blood-pressure should be abandoned; the usual dietetic restrictions may be modified, and digitalis should never be given, or only with much caution. M. Franck substantiated the clinical inferences by experiment, producing artificial lesions of the aortic valves in animals, with the effect of a marked increase in the energy of the cardiac contractions, and in the number of pulsations. In attempting to determine the conditions which should suffice to maintain the normal blood-pressure in aortic insufficiency, M. Franck found that it is necessary that the heart's force should be increased and the peripheral outflow be diminished—e.g., by narrowing of the peripheral vessels. These conditions are precisely those which take place in man in this disease. Moreover, the phenomena of the affection are just as well explained on the high-pressure theory as they are on that of low pressure.

OVERCROWDING RAILWAY CARRIAGES.

A SINGULAR defect in law was exposed by a decision given at Westminster Police-court a few days ago. A gentleman who had been subjected to a good deal of annoyance, and had even sustained some personal injury in an attempt to prevent the overcrowding of a railway carriage on the North Western line, applied for instruction as to the power of the law in such a case. He was informed that in consequence of some oversight in drawing up the Railway Bills, the Companies were in this regard not liable to legal correction. The subject would appear to have been treated as an affair between the railway officials and the passengers, to be settled in the readiest way, and uncontrolled save by varying inclination or by length of purse on one side or the other. It is not to be expected that any department of the public service would persist in quarrelling with those who support it on a mere point of convenience, but exceptional temptations may easily arise under pressure of business, and to meet them the generally good intentions of custom should be fortified by rule. In railway travelling many circumstances render this advisable. Apart from the innumerable lesser discomforts which arise from such a fault as overcrowding, real and sometimes serious danger may be thus occasioned. The ventilation of carriages is too apt to be either draughty or inadequate. How far it shall be satisfactory is more or less at the option of individual passengers. The difficulties connected with its management are necessarily much increased by the careless herding together of surplus occupants in the restricted space. One cannot tell, moreover, who his fellow-passenger is. Perhaps he has come from an infectious sick bed, or is unconsciously himself the seat of an incubating fever. The altogether inordinate packing of excursion trains again is a colossal error, difficult, perhaps, to obviate entirely and at once, but capable, under judicial regulation, of very great amelioration. On account of the frequent occurrence and the increasingly wide extension of this practice, the danger from accident and illness inherent in it, and the deserving need of the class whom it especially affects, it is to be hoped that legal powers may be obtained which shall stretch the present economy of railway companies to a measure consistent with safety and convenience.

MODERATE DRINKING.

THE Bishop of Exeter and others have been declaiming against moderate drinking. It is high time to define what moderate drinking is not. It is not drinking in public-houses; it is not drinking on the sly; it is not drinking early in the day; it is not drinking by itself at other than meal-times; it is not drinking to procure sleep or to relieve pain. All men, and especially all women, who do such things, are not moderate drinkers, and had better beware. A moderate drinker takes a very limited quantity once or at most twice a day, *with food*, such a quantity as does not make him stupid or even sleepy, such as leaves him cool and unexcited. The moderate drinker takes the lightest forms of alcohol, and takes even these with care. He knows the power of alcohol to produce disease, and is on the look out for any indication of harm or excess. We do not think it proved that such persons become drunkards. It is terrible, however, to see how soon a drunkard is made by *thoughtless* drinking, and how complete is his physical destruction often before he, or perhaps she, comes under medical notice. Jaundice, or dropsy, or albuminuria, or delirium tremens, may have been reached before friends, unwilling to admit what they fear, will send for the medical adviser and make a clean breast of it. Alongside all the teetotalism that exists there is still an appalling amount of tippling which does not distinctly intoxicate, but saturates the principal organs and destroys them more quickly than an occasional debauch. But, as we have said, this is not moderate drinking—it is mortal drinking.

DISTILLED WATER IN CALCULOUS DISORDERS

IT is now some years since Dr. Murray drew attention to the fact that the continued use of soft water brought about in many instances the disintegration of small renal calculi. Since then soft or rain water has been extensively employed, not only for the solution of calculi, but also for the relief of dyspepsia associated with persistent deposits of urates and oxalate of lime crystals. In the country, with opportunities for the storage of rain water, there is no difficulty in procuring a sufficient supply of soft water for the purpose, but in large towns considerable difficulty has been experienced in obtaining soft water in quantity and also sufficiently fresh to be palatable—the distilled water sent out by chemists in gallon jars, which is generally resorted to, being apt to become stale and acquire an unpleasant flavour by keeping. This difficulty has been met by supplying distilled water in an effervescing form by charging it, we believe, with carbonic acid gas. This renders the water brisk and palatable, without, as a rule, impairing its solvent action. Still there are some cases, notably those

attended with persistent deposits of oxalate of lime in the urine, in which the ingestion of large quantities of water charged with carbonic acid is not advisable, and it would be a distinct advantage if, in addition to distilled water rendered sparkling with carbonic acid, we could procure a water simply charged with compressed air; whilst a water so charged, but with an additional volume of oxygen introduced, would often be a distinct advantage. Independently of its use as a solvent, it must be remembered that distilled water is one of the best and simplest diuretics, and that in a pleasant and palatable form it could be employed with benefit in many of those cases of dyspepsia in which the urine is highly concentrated, and which Murchison considered to be the result of lithæmia.

MEDICAL SOCIETY OF LONDON.

THE first ordinary meeting of this Society was held on Monday last, Mr. Arthur E. Durham, F.R.S., President, in the chair. The event of the evening was a dissertation on Corrosive Sublimate as an Antiseptic Dressing, by Sir Joseph Lister, Bart. The meeting began with a brief address by the President, in which he commented on the satisfactory condition of the Society in every particular. The library was gradually getting into a state of order due to the exertions of the hon. librarian, Dr. W. H. Allchin, and already 2000 books on anatomical and physiological subjects were catalogued and placed on the shelves of the library. Reference was also made to the losses from death sustained by the Society. Sir Erasmus Wilson had been a benefactor of the Society, as he now was to be by his munificent bequest to the Royal College of Surgeons, to the medical profession, and to the world at large. A resolution proposing a vote of condolence with his widow was moved by the President in the following terms:—"The Fellows of the Medical Society of London beg to express the deep sorrow with which they heard of the death of Sir Erasmus Wilson, their former President, whose services to and whose interest in the Society they so highly appreciated, and to offer to Lady Wilson every expression of sincerest sympathy in her irreparable loss." The resolution was seconded by Mr. R. W. Parker, and unanimously passed. The loss of Drs. Henry Aldred, Kempthorne, and Benjamin Terry Hodge, Fellows of the Society, was also mentioned. The illness of Mr. John Gay was referred to with much regret. The congratulations of the Fellows of the Society were offered to Dr. Wiltshire on his reappearance amongst them. The annual volume was placed upon the table, and its early completion must be ascribed to the energy and industry of the hon. secretaries, Mr. Pearce Gould and Dr. Kingston Fowler. Sir Joseph Lister then read his paper, which will be found in full at page 723. Owing to the lateness of the hour, no discussion followed the reading of the address, which was highly applauded. Before the meeting began Newham's patent invalid bed-lift was exhibited.

THE STATE OF THE THAMES.

OUR contemporary, the *Metropolitan*, attacks us for ascribing the present dangerous and disgraceful state of the Thames to the Metropolitan Board of Works. We can only reply by reiterating our statements. The present system was devised, and the present outfalls were selected, by the engineers of the Board; and the Board, availing itself of the almost unlimited powers conferred upon it by the Act of 1858, carried out the works in spite of the strong protests of the referees appointed by the Government in 1856. The whole story is told so well in the recent report of the Metropolitan Sewage Discharge Commission, that we need only refer our readers to that valuable State paper. In a sense it is, of course, true that the Board worked under Parliamentary powers, which, however, were exceptionally great; but that the Board suggested and made itself responsible for the scheme, and pressed it with the utmost energy, is no less true than that it has recently spent a large sum of money in the endeavour to prove that no nuisance exists, and that the present state of the river is satisfactory. On April 6th, 1858, Mr. (now Sir Joseph) Bazalgette, and the two engineers appointed by the Board to assist him, advised that Barking and Crossness should be selected for the outfalls, and scouted the suggestion of the referees that the sewage should be taken to Sea Reach in these remarkable words:—"The plan recommended by the referees is needlessly large, excessively costly, and, as a work of construction, all but impracticable." We presume Sir Joseph has changed his opinion on the last point. The simple fact is that the Act of 1858 left the disposal of the sewage of London to the discretion of the Board, subject only to the conditions that the sewage must be taken out of the metropolitan area, and that no nuisance should be created. There was, it is true, one other condition, which, unfortunately, was not inserted in the Act. It is best stated in the words of Mr. Disraeli, then Chancellor of the Exchequer. "We make it a condition with the Metropolitan Board of Works ..... that provision shall be made for such temporary and *permanent* works of deodorisation as the metropolis has a right to require." On the whole, we must agree with the sagacious remark of the *Metropolitan*, that "public writers ought to make sure of their facts before they begin."

THE NEW ENTRIES.

THE following are the numbers of new students at the Medical Schools from which returns have been received:—

	Full course.	Occasional.	Total.
St. Bartholomew's ...	125	13	138
University College ...	76	60*	136
London	83	46	129
St. Thomas's	86	24	110
Guy's	68	11†	79
King's College	37	28	65
Charing-cross	46	12	58
St. Mary's	35	21	56
Middlesex	39	4	43
St. George's	24	11	35
Westminster	9	9‡	18
Owens College	81	0	81
Newcastle-on-Tyne ...	30	49	79

* For Preliminary Scientific Examination. † Including three for Preliminary Scientific. ‡ Including one dental student.

AMERICAN FEELING TOWARDS ENGLAND.

ON his return home from Europe Dr. Shoemaker was entertained by his friends and fellow-citizens at a banquet, at which, in responding to the toast of the evening, he spoke in feeling terms of the universal kindness and courtesy he had received at the hands of his *confrères* in England. "Let me assure you from personal experience," he said, "that English physicians will always be glad to extend to you the right hand of fellowship, to welcome you to their homes, to conduct you through their well-equipped hospitals, and make you feel at home at their meetings. They are the stock whence we sprang; go back to the parent, imbibe some of its practical thoughts, and you will be amply repaid for your visit." In the *Medical Bulletin* Dr. Shoemaker, speaking in his editorial capacity, reiterates these sentiments, and says: "From the moment we landed upon the shores of Great Britain, during our stay upon the Continent, and until our departure, everything was done to make our visit a memorable one. It will be a green spot in our memory to recall in after years; dear with us as long as life continues to

exist. Our Transatlantic brethren certainly possess the tact of making their guests comfortable, and it is done with such heartiness and goodwill that you cannot but help feeling that it is genuine, and that they mean to prove to you that in our grand profession we are all brothers, intent upon doing good, not only to the laity, but to each one of the brotherhood. In taking leave of our kind hosts it is with regret that we have not more warmly expressed our sentiments, and can only conclude with a hearty wish that the opportunity will soon be given us of showing them that we have learned well the lesson of hospitality taught us." We most heartily reciprocate these sentiments, and trust that it will not be long before Dr. Shoemaker and his colleagues again visit our shores.

MUSHROOMS.

THE genial autumn which has now nearly passed has been favourable to the growth of mushrooms, and has not been unmarked by the accidental illnesses which are apt to arise from the use of a food so uncertain in its qualities. Fifteen cases of fatal poisoning from eating mushrooms are reported from France, besides several others, in which death was barely averted. Misfortunes of equal magnitude are likely to happen from time to time, where only some popular chance test, as in the above-mentioned instances, is relied on for their prevention, and slighter forms of indisposition have never been rare under the same circumstances. The order of Fungi contains many poisonous as well as wholesome varieties, and authorities of note have occupied themselves with establishing the grounds of difference between these two great sections. According to them, the noxious forms are distinguished by one or other of the following peculiarities: their rank odour or high colour; their tough or watery flesh, and scaly or spotted surface; their pungent, spicy, or bitter taste; their growing in clusters, and commonly in wet or shady places. The esculent types, on the contrary, are usually white or brownish, not scaly or spotted, dry, brittle, bland, grow singly, and prefer dry pastures. A pale pinkish hue characterises the "gills," or hymenium, of the common edible mushroom, while a dark colour marks those of its poisonous imitator. Of artificial tests, none are very trustworthy. The blackening of a silver coin when placed in the saucepan with the fungus while it is being cooked has been held to indicate danger. It failed to do so in the cases we have referred to, and this is not surprising, for if it have a meaning it is that decomposition has begun and sulphuretted hydrogen has been generated. Many mushrooms, it is clear, are hurtful independently of any such condition, though doubly so if it be present. Uncertainty in selection does not therefore arise from any want of general rules to guide us in distinguishing natural appearances, but from the great difficulty to any but the proficient eye in recognising these when seen, the more so that intermediate forms of doubtful character link together the innocent and the injurious varieties. Poisonous properties, too, are wont to develop in wholesome kinds under certain conditions. Thus gardeners are careful to exclude rotting wood from the soil in cultivating mushrooms for the table, believing that absorption from such substances is hurtful. Some fungi are edible when young, like the puff-ball, but become poisonous as they ripen. Habitat has probably a modifying influence, which is seen in the divergence of the properties of the agaric of open fields from those of the very similar growth which clusters in the shadow of grassy woodlands. The symptoms of mushroom poisoning are more or less familiar to all practitioners of medicine, and need but a passing notice. They are briefly those of an irritant of the digestive tract, sometimes complicated or even in great part replaced by delirium and coma. Treatment must accordingly aim at combining the removal of the poison by emesis or purgation with a sedative action. Prevention is always better than cure, and the public would do well to avoid the use as food of any fungus, especially if exposed for sale, which has not come under the inspection of a skilled and experienced judge.

REDUCTION OF DISLOCATION OF THE SIXTH CERVICAL VERTEBRA.

IN the current number of the *American Journal of the Medical Sciences* Dr. Wiest records a case of dislocation forwards of the sixth cervical vertebra, the reduction of which was attended with apparent benefit. The patient was a man, thirty-three years of age, who was knocked down by the falling limb of a tree which struck him on the left temple. When seen four hours later there was complete motor and sensory paralysis as high as the nipples, only diaphragmatic respiration, and impaired sensation and motion in both arms. The head was extended and rotated to the left side, and there was a deep depression above the seventh cervical spine. Two days after the accident an attempt at reduction was made. The shoulders were fixed, and the head was extended and rotated first to the right and then to the left; a loud snap was heard, and was also felt by the patient, and the cervical spines were found to slide into their proper position. Extension was maintained, but unfortunately the head and shoulders were raised instead of being allowed to lie flat on a firm mattress, with a well-adjusted support for the neck. The patient died on the thirty-fifth day, but the report does not state in any way fully the progress of the case after the reduction, or the mode of death. In addition to the dislocation of the sixth vertebra forwards and to the right, there were three fractures through the right half of the atlas. There was no injury to the cord apparent to the naked eye, but the microscope showed the "connective tissue torn" and the "nerve tubules disarranged." The case is certainly one that encourages surgeons to follow out the same line of practice where there is evidence of the persisting displacement of a vertebra. Although the cord is generally seriously crushed at the moment of the accident, the removal of all pressure upon or irritation of the bruised part is the best way to obviate the ascending myelitis, which is a frequent cause of death.

FEVER AND SANITARY ADMINISTRATION AT NEWARK.

WITH the information that sixty cases of typhoid fever with four deaths have occurred in the borough of Newark, there comes in an account of the meeting of the town council and in a correspondence to the local press a revelation of sanitary administration that is most discreditable. To begin with, one of the aldermen announces to the council that the duties of the inspector of nuisances are to be in abeyance for some months, because his work as collector will take all his time, and this is confirmed by the subsequent reports of the inspector himself and of the medical officer of health. Such a state of affairs would be astounding even if Newark stood at the head of all British towns for health and cleanliness, but the announcement comes at a time when typhoid fever is epidemic; when correspondence to the local press declares the sanitary state of the town to be "a disgrace," and also points to the general existence in the borough of foul matters, refuse, and piggeries; and when the Local Government Board are pressing the corporation as to their polluted wells, as to the dangers to health "associated with the faulty construction and position of privies," as to the "large accumulations of excreta and refuse in the vicinity of dwellings," and as to the insufficiency of closet accommodation. What a town like Newark can have to do with surface wells must be surprising to anyone having the barest knowledge of the first principles of sanitation. The

town is an ancient one, on the surface soil of which people have lived for centuries; the old system of cesspools and privy-pits would appear to continue to some extent, and apparently much after the same style, as it doubtless did centuries ago. The surface of the soil is, we gather, besprinkled here and there with those accumulations of refuse to which reference has been made, and sewers and drains have been constructed to course through that soil beneath the surface. Of all the places from which to seek drinking water, we should have thought that such a soil would have been the last one, and yet so tenaciously is this source clung to by some members of the corporation, that even now they are talking of analyses whilst fever prevails, and the medical officer of health reports that "no action has been taken with respect to the polluted wells enumerated in his report." The corporation are, however, by no means in ignorance of the state of affairs which exists, and of its possible consequences. Their medical officer of health is one of the most experienced in the kingdom, and many of the town councillors trust him fully. Notwithstanding this, the state of Newark at present deserves the strongest condemnation, a point evidently felt by at least one worthy alderman, who reminded his fellow-councillors, to whom has been entrusted the health of the inhabitants, that if they were not careful a Government officer might come down and expose the state of the town. Worse things than this might happen to Newark.

SMALL-POX IN THE DIAMOND FIELDS.

EVEN yet the epidemic that has for so long visited the diamond fields gives little sign of relaxing its deadly grip. From a local paper, dated Sept. 6th, we find that the weekly record of the sanitary authorities contains a report of eighty-one cases, thirteen of which were fatal. Nor has the spirit of controversy—we had almost said of animosity—between the medical men of Kimberley abated in vigour. On Sept. 3rd, Dr. Matthews gives "an outspoken opinion on the 'prevailing disease,' the value of fumigation and the cordon." In this he endeavours to show that the name "small-pox" is a misnomer, and that the "so-called small-pox" is non-contagious. His contentions, on the face of them, seem to lack the very essential base—accurate observation and statement of facts. In the first place, he substitutes a mere assertion for a logical conclusion; then he makes no attempt to prove the opposite of the theory he condemns; and, lastly, he resorts to the argument *ad hominem* to support what, in our way of thinking, is a bad case. Whilst denying that the "prevailing disease" is small-pox, he accuses the Board of Health of the insufficiency of the means taken to arrest its spread. Quite ingenuously he cites a case in which the brother of an affected person is allowed free access to his relative with the result that the disease is communicated to him, or, as Dr. Matthews puts it, he catches it through being exposed to the same causes. What the nature of "the same causes" is there is no evidence to show, not even is reference made to the question. Is it "telluric?" as Dr. Jameson contends; or is it some unknown aerial spirit working evil among the people? Dr. Matthews's remarkable communication is made still more amusing by the addition of some original thoughts on the inefficacy of fumigation. On this latter point he seeks shelter behind some partial experiments made by M. Pasteur, which are recorded in THE LANCET of July 26th, to test the disinfecting power of sulphurous fumes. It will readily be seen that the conditions under which M. Pasteur experimented were not those which are generally, and should always be, taken to prevent the spread of specific contagious disorders. Following closely upon Dr. Matthews's "plain speaking" is a rejoinder from Dr. Sauer, the medical officer of health. Whilst congratulating the latter upon the common sense shown in his dealing with the facts of the case, and upon the acumen with which he argues from these facts, we regret to find this "criticism on an out-spoken opinion" is something more than rhetorical; it is captious. Nothing is to be gained by returning blow for blow; "A soft answer turneth away wrath." We have all along given Dr. Sauer the credit of having recognised the true nature of the Kimberley outbreaks, and with having stood up boldly in defence of his opinions. In future we trust that he and his opponents will make common cause against the common enemy.

THE EPIDEMIC AT KIDDERMINSTER.

WE expressed astonishment a short time back at the mere passing visit which Dr. Parsons had been instructed to pay to Kidderminster; and although the value of a more complete inquiry is somewhat lessened by delay, we are glad to find that he has returned to make a much more exhaustive investigation into an epidemic which, from the nature of its extent, and from the obscurity which surrounded it in so far as causation is concerned, is one of very great public importance. Although the epidemic as such appears to have largely subsided, yet there have already been between eighty and ninety deaths from typhoid fever in the borough, and although the suspected well is now only put to a modified use, yet many of the inhabitants still object to any resort to it whatever, and doubtless but little of the water is consumed. A further investigation as to the precise influence of this water on the health of the town is evidently wanted; and though it might fairly have been expected that when the necessary lines of inquiry had been pointed out to the authority they could themselves, with sufficient skilled aid, have carried out the work, yet it is satisfactory from a public point of view to know that the work will now be done, or at least inaugurated, by an independent official. Much more is also wanted to be known as to the precise conditions which favoured the spread of the disease, and as to the actual conditions of sewerage and drainage which have caused such loud complaint. This information will now probably be forthcoming. In the meantime private charity is doing much. Carriages are provided for poor convalescents, about eighty gallons of milk are daily given away, and many necessaries and luxuries are provided for the sick.

VACCINATION BY UNQUALIFIED ASSISTANTS.

THE *Bradford Observer* of October 16th contains a good report of an action brought by Mr. Edmund Strickland, surgeon, of Halifax, to recover one guinea for medical services, chiefly vaccination of twins and visits, including medicine. The defendant objected to the charge, and alleged that Mr. Strickland agreed to vaccinate the twins for 5*s.*, and brought with him "an inexperienced man who cut the arms too deep" and then wanted to charge 21*s.* Mr. Strickland denied all this. And the magistrate did not seem to believe more of it than that the assistant was unqualified. He reflected severely on Mr. Strickland for allowing an unqualified practitioner to perform the operation, especially when there was abroad so much unreasonable prejudice against the operation. He allowed only 6*s.* for visits and disallowed the charge for the operation. The case is somewhat unfortunate. We do not doubt that the operation was well done and will protect the defendant's children from small-pox, for which he should be more grateful. But for legal purposes it was a mistake to take the case into court. The law is explicit enough, and properly so, in requiring a vaccinator to be qualified. An unqualified assistant might possibly be a better vaccinator than his qualified principal, but the law takes no notice of exceptional facts, and should not have been relied on to do so.

CLOSET TESTING AT THE HEALTH EXHIBITION.

THE members of the Jury No. 9, undoubtedly the hardest worked jury at the Health Exhibition, have only just completed their labours. Theirs was the truly sanitary section, for it embraced all that related to house and town drainage. But, not content with carefully examining all the exhibits, they felt, and justly, that practical tests were absolutely necessary before a definite opinion could be pronounced. More than 300 experiments have been made of hydraulic rams, pumps, valves, waterclosets, and traps. No less than 120 exhibitors expressed their readiness to send their closets to the testing house, but when the nature of the crucial experiments was generally known, the number gradually dwindled down to seventy-one. The experiments involved the answering of thirty-three different questions, comprising the precise measurement and form of each closet, the amount of water held in the pan, in the trap, and in the waste preventer, the pressure of water when it comes direct from the main, the size of the delivery pipe, of the exits to the soil pipe, the means of ventilation, the depth of the dip in the water seal, the force required to set the closet in action, the number of seconds taken to flush the closet, &c. The efficacy of the working was tested by placing four pieces of paper, a sponge, and ten small apples in each closet. These objects were all to be carried away both from the pan and the trap by a single flush. After this the sides of the pan were painted over with black plumber's soil or paint, and the closet tried, to see if one flush would wash all the paint away. This was a very severe test, as the paint was daubed on right up to the rim of the pan. The practical result of these experiments has been to demonstrate that it was nearly impossible to wash the pan thoroughly and to clear the trap with less than two gallons of water. As each closet took nearly half an hour to test, the work that these experiments involved may be readily surmised, and the jury deserve the warmest praise for the trouble they have taken in the conscientious fulfilment of their duty. One fault only can be found—namely, that the experiments with the closets were of a purely national description, and, as such, not in keeping with an international exhibition. All the thirty-three questions apply to waterclosets; but, speaking internationally, the enormous majority of mankind do not use waterclosets, and have never even seen such contrivances. In by far the greater number of towns as at present organised throughout the Continent and the East, there are no waterclosets, no water-supply, and a two gallon flush is absolutely out of the question. We trust that the jury, in their report, will acknowledge this fact, so as not to appear too insular in their ideas.

"ADJOURNED INQUESTS."

AN annotation headed as above, which appeared in our last issue, was suggested by what had recently transpired at an inquiry into the cause of death of the Rev. W. Spencer Edwards. It will be remembered that an adjournment was decided upon owing to the jury not being satisfied with the medical evidence. Since then a second post-mortem examination has been made, the result of which completely confirmed the truth of the opinion expressed in the first instance—viz., that death was due solely to heart disease. But to their verdict, which was warranted by the medical testimony, the jury added a rider which tells very unfairly on Mr. Keele, the gentleman in whose house Mr. Edwards died. The deceased, although under the general care of Mr. Keele, was attended by his medical man, Mr. Tait. The latter gentleman enjoined perfect repose, and it was in the course of carrying out the instructions given to him that Mr. Keele declined to allow a daughter of Mr. Edwards to have an interview with him. We are glad to find that the summing up by the coroner, Dr. Diplock, and his subsequent remarks were not in agreement with the finding of the jury, "that death was hastened by the refusal of those in charge to allow deceased to see Mrs. Hanmer and a solicitor." We maintain that such a conclusion was not in accordance with the evidence as reported, and that the stigma incidentally cast upon Mr. Keele was unmerited.

SMALL-POX AND ENTERIC FEVER IN THE NORTH.

OUR Newcastle correspondent writes:—Small-pox continues to spread in the city; there are at present thirteen cases in one street alone. The disease is fortunately mild in type, but we hear of its extending to the adjacent colliery villages. Every effort is being made by the authorities to check the spread of the infection, but the ignorance or carelessness of the poor on the subject is lamentable. For instance, a woman attended the police court the other morning who admitted, in reply to a question from the chief constable, that she had at that time three children suffering from small-pox at home.

Several cases of enteric fever have prevailed at the east end of North Shields, and there are at the present time twelve cases in the fever hospital; measures are being taken by the authorities to prevent the spread of the disease. The water-supply should be well looked to, for it will be remembered that the town suffered severely from this source a few years ago. Many people think that the reservoirs are too near the town to be safe, and that the water is not sufficiently exposed to pure air to cause its safe oxidation; however, it is certain that the town always contrasts unfavourably as to health with its sister borough, South Shields, which has its water-supply from a different source.

OUR MILITARY PRISONS.

WE regret that we are again obliged to comment in most unfavourable terms on the manner in which the information respecting the health of the soldiers confined in the military prisons is given—it would be more correct to say withheld—in the annual Report of the Inspector-General. Last year we were informed that steps were being taken to improve the mode of compiling the statistics on this head. This year it is stated that "steps have been taken, with the aid of the medical inspector of the convict and local prisons, to bring about greater uniformity of procedure in filling up the returns, and it is believed that the figures from the different prisons now represent such cases as would be deemed hospital cases in the civil prisons—i.e., cases requiring *bonâ-fide* hospital treatment, and not merely trivial cases needing only some simple remedies. They represent therefore similar and comparable facts." But something more than this is wanted as regards military prisoners. It is not a comparison of the health of military with that of civil prisoners that is required, but the means of ascertaining in what respect the health of soldiers in confinement is affected as compared with their comrades doing duty. And this is not afforded by the Inspector-General's returns. But there are also other defects to be remedied. In the table of the "Return of Sickness" the percentage of the cases is calculated on the total number of prisoners who were confined for any period during the year, instead of on the average number of prisoners. The result of course is to show a very low percentage of sickness, but it is completely misleading. We do not know in what terms the instructions of the medical inspector referred to were issued, but the result is unsatisfactory, as we find twenty-three cases returned as the aggregate number in Chester, while the medical officer in

his report says, "There were only 188 cases of sickness amongst the prisoners." Again, the column for deaths has been omitted from the table; and the number constantly sick, which is an important element in the statistics of health, finds no place in the returns. It is much to be desired that some arrangement might be made by which these reports on military prisons should afford the requisite information to enable us to estimate the effects of imprisonment on the health of soldiers. This could be done without any difficulty if the Inspector-General would put himself in communication with the Director-General of the Army Medical Department. We commend the subject to the notice of those members of the House of Commons who take an interest in military questions, with a view to their bringing under the notice of the Secretary of State for War the very unsatisfactory manner in which information is at present furnished. In addition to the number of cases treated in hospital, and as casual sick in the wards of the prison, it would be most desirable to have a return of the diseases for which they were treated; the deaths occurring, whether in hospital or the prison; and the mean daily sick in each prison.

SIR MOSES MONTEFIORE.

THE Patriarch of Israel in these latter days, as Sir Moses Montefiore may well be held to be, attained his hundredth year yesterday, and with him old age brings honours and troops of friends who hail him father. Lives such as that of this great and good man are lessons of love and righteousness to mankind. Probably the gracious deeds of Sir Moses Montefiore have done more to raise his people to their proper level in the estimation of statesmen and philanthropists in all contemporary communities than could have been achieved by any other means, save the calm and patient well-doing and the liberality and geniality of personal feeling and conduct which have been consistently exemplified in his well-spent life. It is rarely in any age that a man of note reaches his centenary amid circumstances so propitious and evidences of kindly and reverential friendliness so sincere.

ROYAL UNIVERSITY OF IRELAND.

A MEETING of the Convocation of this University takes place this week. Notice of the following motion has been given by Mr. Maguire, LL.D., F.I.C.D.:—"That, in the opinion of Convocation, steps should be taken with reference to Dr. W. K. M'Mordie's statement that the examination papers of the Royal University are known beforehand to certain candidates, and that there is much to confirm Dr. M'Mordie's statement." The allegation is a very serious one, and has already been referred to by our Dublin correspondent when commenting on the Report of the President of the Queen's College, Belfast, for the past session.

THE SURGICAL FINGER-NAIL.

A SMALL brass instrument of simple construction was shown by M. Motais at the recent French Congress held at Blois. It consists of a metallic plate which has the shape of the finger-nail, which it covers, the finger itself being engaged by means of a ring. The author has employed it for the removal of glands from the axilla in cases of cancer of the breast, and states that it would be found useful in the removal of uterine polypi as well as in stripping the periosteum from a bone. The small instrument does not, like that of Amussat, pass beyond the level of the finger-nail.

THE outbreak of typhoid fever at Derby still continues to show signs of abatement.

SCIENCE has to regret the death of Dr. Heinrich Neumann, Professor of Psychology at the University of Breslau, in his seventy-first year. He was recognised in Germany as one of the leading authorities on mental disease. Besides his contributions to strictly professional literature, he had also, by various monographs, especially one on Lear and Ophelia, taken a place among the numerous contributors in Germany to Shakspearian criticism.

THE death is announced of Mr. Charles Barham, the oldest physician in Truro, at the age of eighty. Mr. Barham graduated as M.B. at Cambridge in 1827, and afterwards studied in Edinburgh and Paris. In 1860 he proceeded to the degree of M.D. He was a Justice of the Peace for Truro, a Vice-President of the Royal Institution of Cornwall, and Consulting Physician to the Royal Cornwall Infirmary.

THE Metropolitan Board Teachers' Association has passed the following resolution, which is stated to represent the opinions of 2078 adult board teachers in 320 London schools. "The Metropolitan Board Teachers' Association endorses generally the report of Dr. Crichton Browne on the over-pressure and worry in schools, and thanks him for the report."

DR. WM. GONNERMANN, the joint author with Professor Rabenhorst of the Mycologia Europea ("The European Fungi"), a highly valued work, died a few days ago at Coburg, at the age of seventy-eight. The last few years of his life were spent in an extended study of the cryptogams, and it is hoped that his notes will be a very valuable accession to the existing knowledge on this subject.

AN experimental and clinical study on a new method of producing anæsthesia is the subject of a work, recently published, from the pen of M. Colombel. A combination of atropine (two centigrammes), morphia (twenty centigrammes), and chloroform (twenty grammes) is the mixture recommended. Some of the surgeons at Lyons speak very favourably of its use.

AT the first meeting of the Berlin Medical Society on the 15th inst., the President, Prof. Virchow, referred to the conference upon cholera held in July, when Dr. Koch detailed his experiences upon the cholera and its bacillus. He added, that in spite of recently published statements, Dr. Koch still adhered to his belief in the specificity of the comma bacillus.

SMALL-POX has appeared in various parts of Victoria, especially near Melbourne. Should the disease become general in the colony, as there is too much reason to fear will be the case, "the mortality among our practically unvaccinated population," says the *Australian Medical Journal*, "will be something appalling."

BY a unanimous vote, Dr. William Osler of Montreal has been elected to the chair of Clinical Medicine in the University of Pennsylvania, in the vacancy created by the transfer of Dr. Pepper to the chair of Theory and Practice of Medicine.

THE French lady medical students have an active champion in M. Paul Bert, who is seeking to secure for the ambitious fair ones the privilege of attending the wards of the Paris hospitals.

WE regret to announce the death from cholera of Surgeon-Major Mark Anthony, M.D., of the Army Medical Service, which took place at Fatehgurh in India on August 28th.

THE

BIOLOGICAL LABORATORY AT THE HEALTH EXHIBITION.

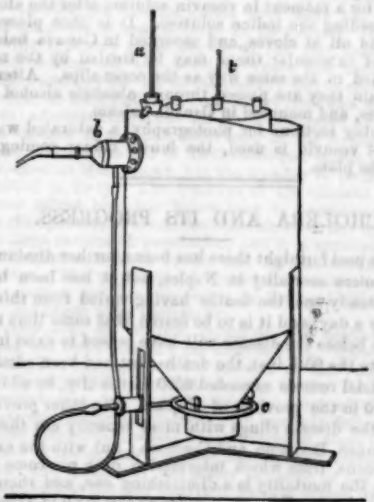
No. VII.

INCUBATORS.

FOR the purpose of maintaining cultivations at a constant moderate temperature, such as that of the human body, incubators of various kinds are employed. Two are in use in the laboratory.

The étuve d'Arsonval (Fig. 27) is a cylindrical vessel with double walls. The walls contract below in a conical shape. The interior of the incubator communicates with the exterior by means of an aperture at the bottom of the vessel, which is closed by a grating, and there is a perforated floor at the junction of the cylindrical and conical parts which support the objects placed in the interior. The cylindrical part of the apparatus comes to a termination above in a plane which is slightly oblique, and it is at the highest part that the aperture is placed, through which the space enclosed between the walls is filled with water. This arrangement allows the space to be completely filled without any air being enclosed, which, as will be seen, is essential to the proper working of the apparatus. The aperture

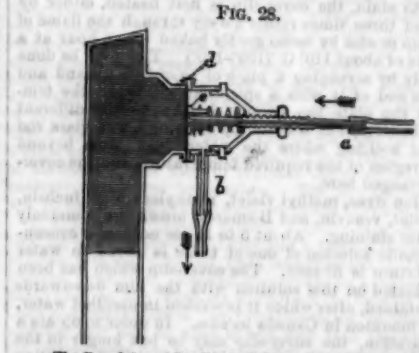
FIG. 27.



The Etuve d'Arsonval.
a, Pressure tube. *b*, Regulator. *c*, Burner. *t*, Thermometer.

mentioned is closed by a caoutchouc stopper, which is perforated by the end of a narrow glass tube (*a*). The interior is closed above by a lid which, like the sides, is double to contain water, and is in a horizontal plane. It is perforated by several apertures, one of which admits a thermometer (*t*). The apparatus for regulating the supply of gas (*b*) is attached to the side close to the upper part of the wall. A section of it is represented at Fig. 28. A hole in the outer of the two walls of the incubator is surrounded by a ring which has a flat lip. To this is applied the corresponding lip of a sort of box. The two lips, however, are not in actual apposition, for they are separated by the margin of a diaphragm of indiarubber (*d*) which intervenes between the water enclosed in the double wall of the incubator and the cavity of the box. It will be convenient to regard the diaphragm as forming the floor of the box. Its sides are vertical, and its top which is screwed on to the sides is conical, being perforated in the middle by a long pipe (*a*), which again can be screwed backwards and forwards in the top. This tube (*a*) projects in the cavity of the box so that the end of it approaches the diaphragm. Round the end of *a* is a loosely fitting collar (seen in section at *c*), which is kept applied to the diaphragm by means of a spiral spring. From the lowest part of the side of the box passes down a tube (*b*). An indiarubber pipe attached to *b* is in connexion with a circular pipe which surrounds the lower part of the incubator, and is provided with three burners by which the apparatus is heated. The gas enters through the tube *a* (fig. 28), and escapes between its mouth and the diaphragm into the cavity of the box, whence it passes through *b* to the burners. When the water is heated it expands, and as it completely fills the space between the walls of the incubator it at once begins to rise in the tube represented at *a*

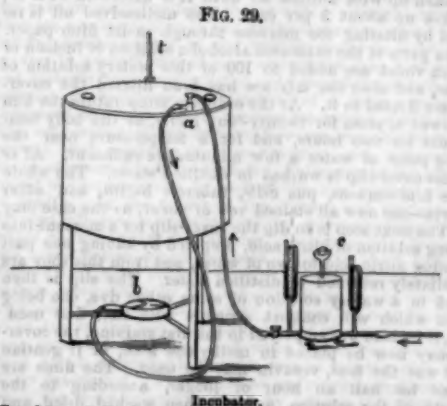
FIG. 28.



The Regulator of the Etuve d'Arsonval, seen in section.
a, Afferent Gas-pipe. *b*, Efferent Gas-pipe. *c*, Collar. *d*, Diaphragm.

in fig. 27. Now the pressure on the diaphragm exercised by the water in this tube is equal to the weight of a column of water of which the diaphragm is the base, and the distance between the surface of the water in the tube and the diaphragm is the height. This pressure causes the diaphragm to bulge outwards towards the mouth of the tube supplying the gas. When the temperature has attained the required height the tube *a* (fig. 28) is screwed inwards until its mouth is so near the diaphragm as to partially shut off the supply of gas. When this is done the temperature of the water falls, less pressure is exerted on the diaphragm, and it

FIG. 29.



Incubator.
a, Regulator. *b*, Gas-burners. *c*, Pressure regulator. *t*, Thermometer.

recedes from the mouth of the tube, so admitting a larger supply of gas. In this way the pressure exercised by the heated water is made to check the heating of the water, and by adjusting the mouth of the supply tube relatively to the diaphragm, any desired temperature, within the limits of working of the apparatus, may be maintained constant, or at least with variations only within half a degree.

The other form of incubator is represented at Fig. 29. It is a cylindrical box with double sides, floor, and lid, and these enclose water. It is heated from below by means of a gas burner (*b*). It is regulated by Reichert's regulator (*a*), by means of which the heated water causes the mercury

enclosed in a bulb immersed in it to rise in a tube and check the supply of gas. The principle is similar to that of Page's regulator. The pressure of the gas is rendered constant by means of the regulator (c).

METHODS OF STAINING BACTERIA.

In order to stain bacteria from a cultivation, or when they are present in a liquid, a small portion of the cultivating material or of the liquid, containing them is placed on a thin cover-slip, another cover-slip is placed over this, and the two are firmly pressed together. The two slips are then slid one from the other, and each with a very thin layer on it is set aside to dry. In preparing to stain, the cover-slip is first heated, either by being passed three times rather slowly through the flame of a spirit lamp or else by being gently baked for an hour at a temperature of about 110° C (100°–120°) This may be done conveniently by arranging a plate of copper on a stand and heating one end of it with a spirit lamp. When the temperature of the plate has become constant at the different parts, the boiling-point is found by drawing a wet glass rod over it and noticing where the water boils. Just beyond this is the region of the required temperature, and the cover-slips are arranged here.

The aniline dyes, methyl violet, methylene blue, fuchsin, gentian violet, vesuvin, and Bismarck brown are commonly employed for staining. About 5 to 10 per cent. of a concentrated alcoholic solution of one of these is added to water and the mixture is filtered. The cover-slip which has been heated is floated on this solution with the film downwards until it is stained, after which it is washed in distilled water, dried, and mounted in Canada balsam. In order to obtain a finer preparation, the cover-slip may be left longer in the staining solution and then immersed in a dilute solution (½ to 1 per cent.) of acetic acid. This removes some of the colour. It is then washed and mounted as before. An alkaline solution of methylene blue is better for the bacteria associated with glanders, typhoid fever, and some others. This is prepared by adding thirty parts of a saturated solution of the dye to one hundred parts of a dilute solution of caustic potash (1 in 10,000).

Tubercle bacilli may be demonstrated in sputa in the following way:—Some of the thicker parts of the sputum is placed on a cover-slip and dried and heated in the manner above described. After it has been so treated it is stained in a solution of fuchsin or gentian violet prepared by the Weigert-Ehrlich method. To prepare such a solution water is shaken up with aniline oil until it is saturated with it; it takes up about 3 per cent. The undissolved oil is removed by filtering the mixture through moist filter-paper. Eleven parts of the saturated alcoholic solution of fuchsin or gentian violet are added to 100 of this watery solution of aniline, and after the mixture has been filtered the cover-slips are floated in it. At the ordinary temperature the film is allowed to stain for twenty-four hours, at the body temperature for two hours, and for a temperature near the boiling-point of water a few minutes are sufficient. After this the cover-slip is washed in distilled water. The whole of the film—mucus, pus cells, tubercle bacilli, and other bacteria—are now all stained red or violet, as the case may be. The next step is to dip the cover-slip for a moment into a strong solution of nitric acid, prepared by adding one part of fuming nitric acid to two of water, and from this they are immediately returned to distilled water. The slip is then floated in a watery solution of some other dye, one being chosen which will contrast strongly with that first used. Thus, if fuchsin was employed in the first staining, the cover-slip may now be placed in methylene blue, or if gentian violet was the first, vesuvin may be used. The films are stained for half an hour or longer, according to the strength of the solution, and are then washed, dried, and mounted in Canada balsam. The result of this process is that the tubercle bacilli remain stained by the first dye used, while all the rest of the film has been so acted on by the nitric acid that the first dye is replaced by the second, and thus the tubercle bacilli stand out red on a blue ground, or violet on a brown ground, as the case may be.

A *tissue* which contains bacteria should be hardened in absolute alcohol or methylated spirit; in the former case for one or two days, in the latter for two or three weeks. When sections are cut it is best to freeze the tissue. It is first soaked in water until the alcohol is removed—i.e., until it sinks, in all cases except lung specimens—and then in strong gum. The solution of gum may conveniently be kept sweet by adding a little salicylic acid to it. When an ice and salt freezing machine is used, the pure solution of gum sets to too brittle a mass to be cut without injuring the sections; in order to prevent this five or ten minims of methylated spirit may be added, or a mixture of two parts of gum and one of syrup may be used. In an ether freezing machine the required consistence of the mass may be obtained by moderating the supply of spray. The sections are floated in water to dissolve the gum. The best stain for most bacteria in tissues is the alkaline solution of methylene blue above described. After being stained from one to two hours they are washed in dilute acetic acid, then successively in distilled water, absolute alcohol, and oil of cedar, and mounted in Canada balsam. The oil of cedar takes out the colour less than oil of cloves. The watery solutions of fuchsin, methyl violet, and gentian violet may also be used.

In order to stain the bacteria one colour and the tissue another, the sections may be placed first in methyl violet, or gentian violet, and then in picrocarmine; but this method requires considerable practice. Gram's method is for the same purpose, and in many cases gives good results. The sections are transfered from water to absolute alcohol, and thence to a Weigert-Ehrlich solution of gentian violet, for from one to three minutes. In some cases it is better to place the sections in absolute alcohol between this and the next stage. They are then placed in a solution composed of one gramme of iodine, two grammes of iodide of potassium, and 300 cubic centimetres of water, where they remain for three minutes or more, and are then passed on to absolute alcohol, oil of cloves, and Canada balsam. The bacteria are stained violet and the tissue pale yellow. In order to deepen the colour of the tissue the section may be immersed for a moment in vesuvin solution after the alcohol bath succeeding the iodine solution. It is then placed in alcohol and oil of cloves, and mounted in Canada balsam. Sections of tubercular tissue may be treated by the nitric acid method in the same way as the cover-slips. After the second stain they are passed through absolute alcohol and oil of cloves, and mounted in Canada balsam.

In staining sections for photography, a saturated watery solution of vesuvin is used, the brown colour coming out dark on the plate.

CHOLERA AND ITS PROGRESS.

FOR the past fortnight there has been a further diminution of the cholera mortality in Naples, but it has been by no means a steady one, the deaths having varied from thirteen to seventy a day, and it is to be feared that some time must yet elapse before the disease will have ceased to exist in the city. Up to the 20th inst. the deaths that had been admitted by the official records exceeded 6500 in the city, in addition to over 700 in the province of Naples. The other provinces to which the disease clings with most tenacity are those of Genoa, Cuneo, Bergamo, and Cremona; but with the exception of Genoa, from which information does not come very regularly, the mortality is a diminishing one, and there are grounds for hoping that, even so far as the town of Genoa is concerned, a very material abatement in the virulence of the outbreak has taken place.

From France the news is more cheering than it has hitherto been since the commencement of the epidemic. Only very occasional deaths are now occurring in either Toulon or Marseilles, and although a somewhat persistent prevalence of cholera was maintained in the Department of the Pyrénées Orientales during the earlier half of the present month, yet an absence of news as to fresh deaths in that portion of France may, it is to be hoped, be taken as an indication that the outbreak has practically subsided.

Much the same may be said as regards the Spanish outbreak. Up to about October 10th a daily return of cholera deaths was made as regards the province of Alicante, where the disease first appeared, and where the mortality was largest; but now, although no authoritative announcement has been made as to the cessation of the epidemic, the absence of news gives some hope that this result may, at least, be near at hand.

As regards the future, there is some hope that the terrible visitation of 1884 will not be thrown away. From Naples comes news that early steps are to be taken to secure the proper sewerage of the city, and to enforce the closure of the

many wells which are resorted to, and which must obviously from their surroundings be subjected to constant pollution. But much more than this is needed in Naples, and it is perhaps in part owing to the gigantic scale on which sanitary reform is needed that so little improvement followed on the previous epidemics which devastated the city. The overcrowding of houses in area and of people in dwellings is such that purity and wholesomeness of air cannot possibly be secured, and, together with a reconstruction of much of the town, there must proceed the erection of buildings to take in those who will be ejected from the old tenements. Whether Naples can undertake this large task except with the aid of the national purse has to be seen. But until it is undertaken the city will remain a source of danger to the Peninsula.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Hampstead.—The parish of St. John, Hampstead, not only continues to enjoy a small death-rate, but after making allowances for the deaths of non-parishioners in public institutions, the rate for 1883 is reported by Dr. Gwynn as being the lowest on record—namely, 11·26 per thousand. The zymotic death-rate was also low. As regards the influence of the North-western Hospital of the Asylums Board in the district, Dr. Gwynn states that there has been no special incidence of scarlet fever in its vicinity. He attributes this in a very great degree to the fact that a severe epidemic during the two previous years had used up the material necessary for its development; but it must, at the same time, be admitted that, quite apart from this condition, a careful administration has all along prevented any spread of this disease in the neighbourhood of the London Fever Hospital. Since the end of 1883 small-pox wards have also been opened at Hampstead, but the number of patients is to be limited to forty. The question of the efficient removal of house refuse bids fair before long to become a pressing one in Hampstead, as it has done elsewhere in the metropolis and in large centres of population, and it is anticipated that the difficulty will have to be met by the erection of a destructor. The provision of baths and washhouses is in contemplation, and improvements in the ventilation of the sewers are about to be undertaken.

Islington.—In St. Mary's, Islington, the death-rate was 17·1 and the birth-rate 32·8 per 1000 in 1883. Passing from statistics, Dr. Tidy gives some account of the epidemic of enteric fever which prevailed mainly in St. Pancras last year, which was due to milk infection, and which spread also into the Islington district. An account follows as to the other infectious diseases which prevailed, there is a short summary of the sanitary work of the year, an account of the quantity and quality of the water supplied to the district, and then follow the four quarterly reports issued during the year as to proceedings taken under the Sale of Food and Drugs Act.

Kensington.—During 1883 the death-rate for Kensington was 15·5 per 1000, a lower rate than any known since vital statistics for the parish have been available. In dealing with the prevalence of infectious diseases in the parish, Dr. Dudfield shows that considerable care is taken by his department to prevent the spread of infection, employers being communicated with in the case of persons having scarlet fever in their houses, and other kindred precautions being taken. Reference is made to an outbreak of enteric fever which occurred last autumn in the neighbourhood of Earl's Court-road. The prevalence appeared almost certainly to be associated with a special milk service; but though every facility for an investigation was rendered, the actual source of the infection was not discovered. The existence of the Fulham or Western District Hospital in the immediate vicinity of an important portion of the Kensington district leads Dr. Dudfield to report in detail as to the operations of the Metropolitan Asylums Board, and he next proceeds to consider a localised outbreak of small-pox which occurred in the vicinity of that hospital during the course of the past summer. This outbreak led to a renewal of Mr. Power's investigations as to the influence of the Fulham hospital, but according to Dr. Dudfield the prevalence had commenced before any patients were admitted into the hospital. If this be so, the information to be derived from the inquiry will probably be limited, but Mr. Power's report must be waited for before any definite opinion on the subject can be expressed. In the absence of any system for the compulsory notification of infectious diseases, a plan has been arranged by which Dr. Dudfield receives a large amount of voluntary aid in this matter from registrars, relieving officers, the resident medical officer of the Kensington Dispensary, the Chief Commissioner of Police in so far as constables and their families are concerned, the postal authorities in connexion with postmen and their families, school authorities, clergymen, district visitors, and many private medical practitioners. From one or other of these sources several hundred cases of illness annually come under notice, and much useful work results; but still the number of concealed cases remains very large, and no voluntary system can be expected to be thoroughly efficient. These and other points of general sanitary interest are fully discussed in Dr. Dudfield's report, but at the same time he does not fail to supply a large amount of information as to the local circumstances of his district, and also to indicate the directions in which sanitary action has been taken. The Kensington reports are, in short, amongst the most complete that are issued.

St. Giles.—Mr. Lovett reports a death-rate of 21·5 per 1000 for the district of St. Giles and a birth-rate of 30·7; the zymotic rate was 2·20 per 1000, or somewhat below that for London generally. Reference is made to a heavy zymotic death-rate in the Peabody Buildings in Great Wild-street. Careful examination of the premises failed to discover any sanitary evil, and in view of the fact that the majority of the deaths were due to diseases such as measles, the circumstance, affecting as it did only a population of some 1500, must probably be regarded as exceptional, and as having but little bearing on the healthiness of the buildings. Considerable improvements have been effected in St. Giles's, as regards dwelling accommodation, during recent years, and more work of the same description is in contemplation. In the general report issued by the Board of Works for this district we note with regret that the erection of public retiring rooms for females has been opposed and deferred, and that no present effort is to be made to meet this crying want in a city which is so vast in area that the need for supplying it is greater than anywhere else.

Wandsworth.—Taking the district as a whole, the birth- and death-rates were 35·1 and 17·8 per 1000 respectively, and the rate of mortality from the so-called principal zymotic diseases was lower than in any of the last seven years. The general sanitary work of the year is stated to have been greater in amount and of more importance than that which has hitherto been accomplished. It included a detailed inspection of dwellings, the removal of a large number of nuisances, and measures to prevent the spread of infection. The scavenging of the district, however, remains very imperfect, and considerable inconvenience and nuisance is hence occasioned to householders. Following on the general report is a separate one by each of the five medical officers of health. In the report on the Putney and Roehampton division reference is made to a serious epidemic of diphtheria which caused twenty-four deaths. Unfortunately, however, the investigation which followed failed to show how the disease had been brought about. In West Battersea complaints were made by the inhabitants as to the dirty and unwholesome state of the water; this was, on inquiry, found to be due to the fact that the dead end of a water-pipe had long remained uncleaned, and when it was first opened the fluid which came forth was for several minutes of a most filthy description. This dead end has since been done away with, the circle being completed by joining the pipe on to another one.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

During the week ending the 18th inst., 6060 births and 3545 deaths were registered in twenty-eight of the largest English towns. The annual rate of mortality in these towns, which had been 20·1 and 19·8 per 1000 in the two preceding weeks, rose last week to 21·1. During the past three weeks of the current quarter the death-rate in these towns averaged 20·3 per 1000, against 20·7 and 19·4 in the corresponding periods of 1882 and 1883. The lowest rates last week in these

towns were 13·6 in Halifax, 14·9 in Portsmouth, 16·6 in Brighton, and 16·7 in Hull. The rates ranged upwards in the other towns to 26·9 in Newcastle-upon-Tyne, 28·2 in Liverpool, 29·9 in Preston, and 30·2 in Bolton. The deaths referred to the principal zymotic diseases in the twenty-eight towns included 167 from diarrhœa, 74 from scarlet fever, 68 from "fever" (principally enteric), 56 from whooping-cough, 39 from measles, 33 from diphtheria, and 14 from small-pox. These diseases caused the lowest death-rates in Portsmouth and Huddersfield, and the highest in Derby, Preston, and Bolton. The highest rates of mortality from scarlet fever were recorded in Leeds, Sheffield, and Cardiff; from measles in Bolton; from whooping-cough in Sunderland and Nottingham; and from "fever" in Plymouth and Derby. The 33 deaths from diphtheria in the twenty-eight towns included 21 in London and 4 in Liverpool. Small-pox caused 10 deaths in London (exclusive of 18 London cases registered outside Registration London), 2 in Sunderland, 1 in Liverpool, and 1 in Birkenhead. The number of small-pox patients in the metropolitan asylum hospitals situated in and around London, which had been 536 and 504 in the two preceding weeks, rose to 555 on Saturday last; the new cases admitted were 144, against 129, 106, and 68 in the three previous weeks. The deaths referred to diseases of the respiratory organs in London, which had risen from 159 to 227 in the four preceding weeks, further increased last week to 286, but were 34 below the average. The causes of 71, or 2·0 per cent., of the 3545 deaths in the twenty-eight towns last week were not certified, either by a registered medical practitioner or by a coroner. The largest proportions of uncertified deaths were recorded in Sheffield, Bristol, Preston, and Birkenhead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which in the two preceding weeks had been 21·1 and 22·8 per 1000, declined to 21·3 last week, and slightly exceeded the mean rate during the same period in the twenty-eight large English towns. In the Scotch towns the rates last week ranged from 12·5 and 16·8 in Leith and Perth to 23·2 in Paisley and 25·2 in Aberdeen. The 514 deaths in the Scotch towns included 23 which were referred to diarrhœal diseases, 18 to measles, 18 to scarlet fever, 18 to whooping-cough, 13 to "fever," and 11 to diphtheria; in all, 101 deaths resulted from these principal zymotic diseases, against 137 and 120 in the two preceding weeks. The 101 deaths were equal to an annual rate of 4·2 per 1000, which was 1·5 above the average rate from the same diseases in the twenty-eight English towns. The 96 deaths referred to acute diseases of the respiratory organs in the eight Scotch towns showed a considerable increase, and were 11 above those returned in the corresponding period of last year. The causes of 72, or 14 per cent., of the deaths in the eight Scotch towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 26·3 and 28·8 per 1000 in the two preceding weeks, further rose to 30·2 in the week ending the 18th inst. During the first three weeks of the current quarter the death-rate in the city averaged 28·4 per 1000, the rate for the same period not exceeding 18·1 in London and 17·6 in Edinburgh. The 203 deaths in Dublin last week showed an increase of 9 upon the number in the previous week, and included 25 which were referred to the principal zymotic diseases, against 49 and 32 in the two preceding weeks; of these, 10 resulted from diarrhœa, 10 from "fever," 5 from scarlet fever, and not one either from small-pox, measles, diphtheria, or whooping-cough. These 25 deaths were equal to an annual rate of 3·7 per 1000, the rate from the same diseases being 1·8 in London and 3·6 in Edinburgh. The deaths referred to "fever," which had been 8 and 4 in the two previous weeks, rose last week to 10, and exceeded the number recorded in any preceding week of this year. The 5 fatal cases of scarlet fever were 6 less than in the previous week. Six inquest cases and 4 deaths from violence were registered during the week, and 54 deaths occurred in public institutions. The deaths of infants showed an increase, while those of elderly persons slightly declined. The causes of 29, or nearly 13 per cent., of the deaths registered during the week were not certified.

Correspondence.

"Audi alteram partem."

STOPPING TEETH AT GENERAL HOSPITALS.

To the Editor of THE LANCET.

SIR,—Every dentist who has held a hospital appointment will agree with the statements of Mr. Fitzroy Benham in THE LANCET of to-day; but it is only the dentist who is able fully to realise the vast amount of suffering which dental diseases inflict upon the poorer classes. This suffering, because it does not involve direct danger to life, is usually made light of; yet it is often enough alone to make life as miserable as it can be made by any kind of physical torment. It would be a good thing for the poor, as well as for medical and dental students, if the dental departments of general hospitals could be so extended as to allow of the performance of all operations, including stopping teeth. This is impossible while the present rule exists of having only one dentist on the staff, and no properly organised corps of dental dressers. To prepare and fill a simple cavity of decay will occupy an expert operator on an average half an hour, and when an exposed pulp or other complication is present several sittings of equal length may be needed. Want of time, therefore prevents, as a rule, at present the hospital dentist from doing more than extract teeth in cases of acute toothache. There seems no reason why every hospital should not have on its staff two or three assistant dental surgeons; there is no lack now of qualified and accomplished young practitioners eligible for such posts. These assistants could in most hospitals train a body of advanced students capable of dealing with much of the dental disease which presents itself.

The dental department, like every other department of our general hospitals, is frequented by a large proportion of patients well able to pay for professional services. Would you allow me to add in this connexion a word on behalf of the young struggling dental practitioner, to whom such patients with their small fees would be welcome. The dental schools are now turning out annually numbers of first-rate practitioners, many of whom commence practice in London and other large towns. These, being professional men, are compelled to be modest in their demeanour, and cannot effectually compete in attracting patients with the blatant advertiser who, until the Dentists Act has fully developed its effects, must, it seems, be allowed to prey upon the unwary public. If medical practitioners would but inquire, they might now find in most districts a duly qualified dentist able and willing to undertake many cases which are improperly sent to a hospital, where, for the reasons stated, they often of necessity receive inadequate assistance.

I am, Sir, yours obediently,

Wimpole-street, October 11th, 1884. HENRY SEWILL.

To the Editor of THE LANCET.

SIR,—The question raised by Mr. R. Fitzroy Benham in your issue of October 11th is one of considerable interest, but I think in his enthusiasm he rather oversteps the mark when he implies a ruthless slaughter of teeth (which might be filled) by the dental surgeons of general hospitals. I am happy to inform him that innumerable cases are sent to the dental hospitals in London by such dental surgeons. He is right, however, in saying that the general hospitals as a rule are unable to cope with the question of stopping teeth for the patients at all extensively, and I should like to point out the chief difficulties in the way of such operations. At some of the hospitals tooth-stopping is carried out by the dental surgeons as a means of demonstration, though not as a means of treatment, and for the reason that for a tooth to be "stopped" successfully an outlay of at least half an hour must be devoted to one operation—that is, one tooth; and where, say, ten patients attend each requiring three or four "stoppings," it is obviously quite impossible for the dental surgeon to attempt this himself. Then, as to the question of medical students performing the stoppings themselves, I would say that the time necessarily employed by such a student would be at least an hour under constant supervision; here, again, stopping as a means of treatment is impracticable. But I would further say that we at the Dental Hospital of London

never allow a new student to touch a patient until he has been two months at the hospital, during which time he attends demonstrations, watches his seniors at work, and practises "filling" holes drilled in ivory or in extracted teeth. He is then only allowed to commence on very simple cases, and his whole training in the various dental subjects taught in the dental hospitals extends over two years out of the four he must spend over his curriculum for the L.D.S., the other two years being employed in his medical studies and in the dental workroom.

It will thus be obvious that very great care is taken to secure efficiency in dental operations, and it will be equally obvious that the very rudimentary dental knowledge of, and the very elementary dental operations performed by, the average medical students would not be likely to be of great value to the patients upon whom he practised. It therefore would seem that while stopping teeth as a means of instruction can fairly be dealt with in a general hospital, yet as a means of treatment it is almost impossible without a great increase in the number of dental surgeons at the general hospitals, for I maintain that the efficient stopping of a tooth (except in the minority of cases) requires as much skill and special knowledge as the more delicate operations in surgery. Mr. Benham will be interested to know that qualified medical men are admitted to the dental hospitals for short periods, and have thus every opportunity given them for gaining a fair amount of dental knowledge and skill. I am at a loss to understand the meaning of the phrase, "Besides, every one cannot go there;" the best answer to it would be for Mr. Benham or any medical man to pay a visit to either of the dental hospitals, when he would have an opportunity of seeing the mode and the manner of treatment of patients.

I have trespassed too much on your space, so I will only add that the attendance at hospitals of patients who are well able to pay a small fee to young and not very busy practitioners is of too large interest and of too general application for me to dilate upon.

I am, Sir, yours truly,
S. J. HUTCHINSON,
Dental Surgeon to University College Hospital.

London, Oct. 11th, 1884.

"A NEW FORM OF SUTURE."

To the Editor of THE LANCET.

SIR,—I enclose you a suture very similar to that described in your issue of September 27th by Dr. James MacMunn, but after many trials I discarded it and returned to the ligature. It appears to me that the old-fashioned needle and thread has so many good qualities to recommend it that it will require all the force of some very startling and efficient novelty to dislodge it from its present position. "The suture is objectionable" in many respects, according to Dr. MacMunn; but, after all, many of the objections mentioned by him may be actually overcome by skilful manipulation. "The approximation of the walls of a wound" can generally be secured by a wide and deep insertion of the threads, assisted if necessary by the introduction of intermediate and superficial stitches. "The circular constrictions of the skin which lead to ulceration and strangulation of the enclosed tissues" surely result from tying the ligatures too tightly, and from straining the parts into contact with each other; therefore all the responsibility of inefficiency must be thrown, not upon the sutures, but rather upon the clumsy fingers by which they were introduced. The skilful closing of a wound, moreover, demands expeditious manipulation on the part of the surgeon, but the new form of suture, from Dr. MacMunn's description of the method of using it, yields very little promise in this direction, if it requires to be held by "a thread or a piece of cork fastened to it." One word in conclusion with reference to the introduction of sutures after operations involving free incision of the skin. It is my practice to use frequently in these cases the continuous suture, and I believe this ancient mode of approximating the edges has been recently revived by many eminent surgeons. For the application of this method I am desirous of suggesting a trial of the "surgical needle and thread" which was introduced to the notice of the profession through the columns of THE LANCET some months since. The continuity of the needle and the ligature much facilitates the introduction of the thread, at the same time it ensures a new and clean needle with a perfect point for every operation. When the thread is in position, by gently drawing apart the ends of the wire the edges of the wound are evenly brought into contact, and if necessary, the apposition can be improved by a touch here and there with the point of the forceps. The continuous suture possesses another advantage as it admits of very easy removal, and surely this is worthy of consideration, for the "taking out" of the thread is often a more painful proceeding than the introduction.

I am, Sir, yours faithfully,
J. WARD COUSINS, M.D. Lond., F.R.C.S.,
Surgeon to the Royal Portsmouth Hospital.

Oct. 6th, 1884.

"THE EXAMINATION OF SURGEONS-MAJOR."

To the Editor of THE LANCET.

SIR,—Will you kindly afford me space in your columns to thank Mr. Wheeler for the amusement he has again afforded an "innocuous imbecile" by his letter. I should be sorry to give him the great trouble to "reduce his phrascology commensurate with my capacity," and have therefore elected to remain an "unknown quantity." If I acted otherwise it seems probable that Mr. Wheeler might subject me to an examination, when I fear that in his present frame of mind even his magnanimity would not save me from being plucked. I desire therefore to retire from this correspondence with as much grace as a bird can do of the genus to which so distinguished an ornithologist has decided that I belong.

I am, Sir, yours obediently,
X. Y. Z.

Oct. 22nd, 1884.

MANCHESTER.

(*From our own Correspondent.*)

OWENS COLLEGE.

THE opening of the session 1884–85 at Owens College was inaugurated on the 8th inst. by an introductory lecture by Professor Wilkins on the "Rise of Latin Literature." For some years past the special "introductory" to the medical department has been discontinued, one lecture only serving for the whole of the departments of the College. The Dean of the Medical School, Dr. Gamgee, presented his report for the past year, and in doing so alluded to the fact of this being his last appearance in his official character as dean, he having resigned that office after a tenure of nine years, being succeeded by Dr. Morrison Watson, professor of anatomy. From his report it appears that the number of medical students attending the College during the past session was 304. Three students have taken at the London University the degree of M.D., six that of M.B., and two that of B.S. Three gold medals have been gained at these examinations. The Victoria University does not at present appear to attract so many of our students as the London, four only having passed the intermediate examination in medicine of the former against eight in that of the latter, and at the preliminary scientific of the Victoria University six passed against fourteen at the London preliminary scientific; but in the course of another year these numbers will in all probability be somewhat different. The total number of entries of medical students at the College for the present session is eighty-one. The chief changes in the medical department are (1) the appointment of a number of clinical lecturers at various hospitals which have hitherto had no official connexion with the College; and (2) the establishment of a dental department, dental students having up to the present been unable to obtain a complete course of instruction in Manchester, such as is required by the licensing authorities.

THE TYPHUS FEVER EPIDEMIC.

The outbreak of typhus reported in your issue of the 4th has not assumed any large proportions, thanks to timely precautions being taken, not more than about twenty cases in all having occurred; but it has led to a little unpleasant friction between the Chorlton guardians, to whose notice the cases appear first to have come, and the health authorities of the corporation; and as a further complication, some difference of opinion arose as to whose duty it was to replace certain infected bedding that had been destroyed by the health authorities, they asserting that the patients were

paupers, which the guardians denied on the ground that the family was not in receipt of any relief from them until the outbreak of the disease in the house. Peace has, however, been made by the corporation undertaking to replace the destroyed articles.

THE NORTH-WESTERN ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.

At the last meeting here of this Association a discussion took place on a paper by Mr. Vacher on "Prospective Local Government Legislation, and its Bearing upon the Work of Medical Officers of Health." To those who have paid attention to the sanitary work of this country and the ways and means by which it is carried on, or often not carried on, the conviction must be daily more and more confirmed that before sanitation is placed on a thoroughly satisfactory basis it will have to be made a matter of imperial concern, and not left to the caprice and whims of irresponsible local bodies. But recently here the newspapers have published communications from the city auditor, who, because the Health Department is a necessarily somewhat costly one, accuses it of all sorts of extravagance and mismanagement, styling it the "octopus of the corporation," and asserting that "the institution of this department was the greatest bungle that ever the council was guilty of." Again, at the neighbouring borough of Preston, at the last meeting of the town council one of the aldermen, referring to the monthly report of the energetic medical officer of health, and his inability to understand it, stated as his opinion that "they need not have that sort of nonsense printed month after month." And recently in the same town some two tons of fruit that had been seized and condemned were allowed by the magistrates in greater part to be sold after hearing the evidence of a member of the town council to the effect that "it was not meant for food, but for making pies."

FOUL-SMELLING WATER.

The cause of the bad odour of the water, which gave rise to so much complaint a few weeks since, has been discovered by the city analyst, and is rather an unusual one in potable water. He found that in those reservoirs which supplied the water complained of there was an unusual quantity of the small pond snail (Limnæa), and that to the spawn especially of these snails the fishy smell of the water supplied in the summer months was due. The remedy suggested by him is the introduction to the reservoirs of a sufficient number of fish to act as scavengers, and thus keep down these objectionable denizens of the water. Steps are being taken to carry out his suggestsons.

THE SALFORD ROYAL HOSPITAL.

This hospital is about to be considerably increased in size by the addition of fifty beds to the present building, which will then provide accommodation for upwards of 100 patients. The building committee has selected the plans prepared by Mr. Lord, but their decision has not met with the unanimous approval of the medical staff, some of whom object to the arrangement of the wards, and especially to the position of the operating theatre. Mr. Lord was until recently a member of the hospital committee.

OVER-PRESSURE IN SCHOOLS.

At the meeting of the Lancashire and Cheshire Branch of the British Medical Association, held last week at the Lunatic Asylum, Cheadle, the subject of "over-pressure in schools" was introduced for discussion by Dr. Barron of Southport, and led to a somewhat animated debate. The experience of several members was adduced to show that there were undoubted cases of injury the result of too severe or too prolonged school work, but the general opinion of those who had good opportunities of observation seemed to be that the amount of mischief thus produced had been, especially amongst the general public, considerably exaggerated and overrated.

THE "MEDICAL CHRONICLE."

The first number of the Manchester new medical venture appeared on the 1st inst., under the title of the *Medical Chronicle*. It is published under the authority of a committee consisting of a number of the leading members of the profession in this city and neighbourhood. It aims chiefly at giving a *résumé* of current medical work and literature, a comparatively small proportion of its pages being occupied by original communications.

The University College of North Wales is showing much vitality. Nearly £2000 has lately been subscribed in Manchester towards its funds. Between £30,000 and £40,000 is now promised towards the £50,000 required for its endowment.

The degrees of the Victoria University, with the exception of those in medicine, are open to both sexes, and four scholarships to women have just been awarded, such scholarships being held on the condition that the holders pursue their studies at the Owens College with a view to proceeding to graduate in the University.

GLASGOW.

(From our own Correspondent.)

CHANCELLORSHIP OF THE UNIVERSITY.

FOR this office, left vacant by the death of the late Duke of Buccleuch, the names of several candidates are already mentioned. Amongst these are the Earl of Stair (who has accepted nomination) and Lord Rosebery; the Duke of Argyll also was brought forward in a letter published in the *Glasgow Herald* by Dr. George H. B. Macleod, but is disqualified by his holding a similar office in the University of St. Andrews. The Marquis of Bute, a most beneficent supporter of Glasgow University, has been suggested as a possible candidate, but probably religious prejudices are too strong in Scotland to permit of a Roman Catholic candidate being put up with any chance of success.

THE ENTERIC EPIDEMIC.

There is practical agreement among all who are qualified to judge that Dr. Russell, in his report on this outbreak, has traced the disease to its true source—namely, to a contaminated milk-supply. The chairman of the Royal Infirmary House Committee, however, assures us that the suspected milk, that from Kilwinning, can have nothing to do with the occurrence of the disease in his institution, as none of it reaches the infirmary; and he states that there are a great many things to which enteric fever might be attributed, such as "thin clothing and the rapid changes of temperature which they had lately experienced!" Unfortunately this matter has reached the stage of newspaper discussion, which has taken a somewhat offensive form.

Dr. Macewen, of the Royal Infirmary, excised the pyloric end of the stomach a short time ago for malignant disease, but the patient died in a few hours.

The Dunoon Seaside Homes seem to be progressing. At their fifteenth annual meeting it was reported that "up to the present time 26,668 had been received into the homes, and the largest proportion of them were restored to health and strength." Financially the position of the institution is good.

PARIS.

(From our own Correspondent.)

THE FACULTY OF MEDICINE.

THE winter session of the Faculty of Medicine begins on November 3rd, and the professorial staff is composed as follows:—Medical Physics, Prof. Gavarret; Medical Pathology, Prof. Peter; Anatomy, Prof. Sappey; Medical Chemistry, Prof. Gautier; Surgical Pathology, Prof. Lannelongue; Operative Surgery, Prof. Duplay; Histology, Prof. Robin; Morbid Anatomy, Prof. Cornil; History of Medicine and of Surgery, Prof. Laboulbène; Medical Jurisprudence, Prof. Brouardel, Clinical Medicine at the Hôtel Dieu, Prof. Germain Sée; Clinical Medicine at La Charité, Prof. Hardy; Clinical Medicine at the Necker Hospital, Prof. Potain; Clinical Medicine at La Pitié, Prof. Jaccoud; Mental Pathology at the Sainte-Anne Asylum, Prof. Ball; Clinical Diseases of Children at the Enfants-Assistés, Agrégé Joffroy; Syphilitic and Cutaneous Affections at the Hôpital Saint-Louis, Prof. Fournier; Clinical Diseases of the Nervous System at the Salpêtrière Asylum, Prof. Charcot; Clinical Surgery at the Hôtel Dieu, Prof. Richet; Clinical Surgery at La Pitié, Prof. Verneuil; Clinical Surgery at La Charité, Prof. Trélat; Clinical Surgery at the Necker Hospital, Prof. Le Fort; Ophthalmology at the Hôtel Dieu, Prof. Panas; Clinical Obstetrics at the Clinic of the Faculty, Prof. Pajot.

THE ADMISSION OF FEMALE STUDENTS AS INTERNES.

The question of admitting female medical students as internes in the hospitals, in common with their male fellow-students, has been submitted to the Minister of Public Instruction, but for obvious reasons the proposition is not looked upon with much favour.

ACCIDENT TO DR. WORMS.

Dr. Worms, Physician to the Prefecture of the Seine and to the Northern Railway Company, lately met with an accident while about to take the train to Versailles. Being attached to the station, he was allowed to go about freely, and in crossing the rail at the time the employés were arranging the carriages he was caught between two of them, and narrowly escaped being crushed. He, however, had his arm broken; but Dr. Labbé, who is attending him, stated in his bulletin that the fracture was not of a serious nature, and, according to the last report, the patient is doing as well as possible.

BLOOD-POISONING FOLLOWING HUMAN BITES.

The following cases illustrate the danger sometimes attending the infliction of human bites. A lad of eighteen, employed as a waiter at a public-house, was guilty of some misdemeanor, and while his employer was remonstrating with him the lad, fearing a thrashing, took hold of the right hand of his master and bit him severely on the thumb. The publican dismissed the lad on the spot, had his thumb dressed, and thought no more about the matter, when a few days ago—that is, about two months after the bite—phlegmonous inflammation set in, and the patient was carried off in a few hours, death, according to the medical attendant, having been caused by blood-poisoning. In a recent quarrel between two newspaper editors in Paris one bit the hand of the other, soon after which lymphangitis set in in the arm of the wounded patient, which was accompanied by symptoms of erysipelas, from which, however, he soon recovered.

Paris, Oct. 21st.

INDIA.

(*From a Correspondent.*)

THE INDIAN CHOLERA COMMISSION.

At a special meeting of the Grant Medical College, Bombay, on Sept. 20th, the members of the Indian Cholera Commission—Drs. Klein, Gibbes, and Lingard—gave a demonstration of certain micro-organisms found in disease, and exhibited the following microscopical specimens:—(1) The bacillus of malignant anthrax; (2) a specimen from an artificial cultivation of the bacillus anthracis; (3) micrococci found in septicæmia produced in a mouse by inoculating human sputum from a case of croupous pneumonia; (4) the bacilli of swine fever; (5) organisms found in a case of noma in a calf; (6) tubercle bacilli; (7) typhoid bacilli; and (8) specimens of the large varieties of spirilla and vibriones.

CHOLERA EXPERIMENTS IN THE HUMAN SUBJECT.

It appears from the local papers that a suggestion is made in Bombay that the question of the infectiveness of the cholera microbe should be put to practical test in the human subject in the case of convicts sentenced to death. In the event of the result being *nil*, the sentence should be commuted, the subjects for such experiment being given the choice between the risks of taking cholera and the hangman's rope.

HONORARY HOSPITAL SURGEON IN BOMBAY.

The Government of Bombay has, in a resolution, expressed its opinion that the experiment of working a hospital by the gratuitous services of honorary assistant-surgeons has, *de facto*, proved to be a failure. On the recommendation of the Surgeon-General, it seems, the Government proposed to the Municipality that instead of these honorary assistant-surgeons in future a junior commissioned surgeon of the Indian Medical Service should be appointed, at a salary of from five to six hundred rupees per mensem. When this Governmental resolution came before the Town Council, Dr. Blanc, a member, took occasion to point out that the experiment that had been under trial and had not succeeded was far from being really based, as is generally supposed by the laity, upon the system in vogue at home. In England the honorary hospital staff are not paid a salary for hospital services, but they always hold lectureships, which usually carry with them fair remuneration. In the case of Bombay matters differed *toto cœlo*. The men are young, and they have to live; their prime care is not the hospital, but their dispensaries (open surgeries or medicine shops) in private practice which gives them their livelihood. It is to be hoped that the recommendation of the Surgeon-General with the Government of Bombay will be acted upon, and a member of the Indian Medical Service be posted to the Goculdas Tejpál Hospital (which is a native general hospital), as is done in the case of the European General Hospital.

THE FELLOWS OF THE ROYAL COLLEGE OF SURGEONS.

At a meeting of the Committee of the Association of Fellows of the Royal College of Surgeons of England, held on Thursday, the 23rd inst., the report of the scheme of reform of the College prepared by the sub-committee was discussed, and, with slight modifications, approved and adopted. This report, the chief points of which we hope to publish next week, will be printed and circulated amongst the members of the Association with a view to its discussion at a general meeting, to be held at the Medical Society's rooms on Saturday, November 8th. The committee passed a resolution condemning the action of the Council of the College in entering into a combination with the Royal College of Physicians to hold a joint examination, without the direct knowledge, sanction, and approval of the Fellows and Members of the College.

THE SERVICES.

WAR OFFICE.—The Secretary of State for War has appointed Howard W. Hunt, Esq., M.R.C.S.E., to be Assisting Visiting Surgeon for Shorncliffe, under the Contagious Diseases Acts, 1866 to 1869, vice A. Randall Davis, resigned.

MEDICAL STAFF.—Surgeon-Major Alexander Turner, M.D., is granted retired pay, with honorary rank of Brigade Surgeon.

ADMIRALTY.—Staff Surgeon Thomas D'Arcy Bromlow, M.D., has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet. Fleet Surgeon John William Sinclair Meiklejohn, M.D., has been placed on the retired list, with permission to assume the rank and title of Deputy Inspector-General of Hospitals and Fleets. The undermentioned Surgeons have been promoted to the rank of Staff Surgeon in Her Majesty's Fleet:—William Frederick Spencer, M.D., Robert William Williams, Albert Charles Queely, Otway Peter Browne, B.A., M.D., Francis Reginald Malcolm Loftie, Alfred Hubert Kelly, B.A., M.D.

RIFLE VOLUNTEERS.—1st Cornwall (Duke of Cornwall's): Surgeon Humphry Davy, M.D., resigns his commission, also is granted the honorary rank of Surgeon-Major, and is permitted to continue to wear the uniform of the corps on his retirement.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the required examination for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 20th inst.:—

Bidwell, Herbert, L.R.C.P. Lond., Ely.
Blackwood, Frederick Martindale, L.S.A., Sunderland.
Bond, Charles Knox, L.R.C.P. Lond., Lupus-street.
Bristow, William Moss, L.R.C.P. Ed., Liverpool.
Caldecott, Charles, L.S.A., Basingstoke.
Clay, Augustus Frederic, L.S.A., Birmingham.
Davies, Howard, L.S.A., Pontypridd.
Gell, John McHutchin, M.B. Glasgow, Isle of Man.
Hick, Joseph, L.R.C.P. Ed., Leeds.
Paul, Edmund William, L.S.A., Langport.
Pennington, Thomas, Hyde, near Manchester.
Rugg, George Lewis, L.S.A., Clapham-road.
Scattergood, Oliver, M.B. Oxon., Leeds.
Shackleton, Henry, M.B. Dub., Dublin.
Thomas, Benjamin Wilfred, L.R.C.P. Ed., Heathcote-street.

Admitted Members of the College on the 21st inst.:—

Alcock, Samuel King, L.S.A., Burslem, Staffs.
Barker, William James Townsend, L.S.A., Bristol.
De Montbrun, Domingo Antonio, Trinidad, West Indies.
Dobson, Arthur Edward, L.R.C.P. Ed., Downs-park-road.
Gay, John, Hampstead.
Hale, Charles Henry, L.R.C.P. Lond., Bicton, Salop.
Hartley, Horace, L.R.C.P. Ed., Camberwell.
Jackson, Richard Arthur, Oswestry.
Jordan, Gregory, M.B. Edin., York-road.
Marder, Edward Swan, Lyme Regis.
Paine, George Reuben Robins, L.S.A., Old Woolwich-road.
Piggott, Frederick Cecil Holman, L.S.A., Richmond.
Silverlock, Richard Greenhill, L.S.A., Northwell, Norfolk.
Tyler, Alfred Joseph Reeve, L.S.A., Islington.
Walker, Joseph Eagland, L.S.A., Huddersfield.
Wharry, Henry Gordon Oliphant, L.S.A., Gordon-square.
Youel, Sidney Herbert, L.R.C.P. Ed., St. John's.

Admitted Members of the College on the 22nd inst.:—

Archer, Thomas Launcelot, Clapton.
Barnard, Arthur Joynson, L.R.C.P. Ed., Buxton.
Bluett, George Mallock, Regent's-park-terrace.
Butler, Henry John, Bradford.
Counsell, Herbert Edward, Worcester.
Courteen, Raymond, Monmouth.
Currey, Robert Henry, Edge-lane, Liverpool.
Fitton, Herbert, L.R.C.P. Ed., Dewsbury.
Fox, Herbert, L.R.C.P. Lond., Croydon.
Genge, Richard Edward, L.R.C.P. Ed., Waterston, Dorset.
Greene, Edward Campbell, L.R.C.P. Lond., St. Leonards-terrace.
Jeffree, Frank, L.S.A., Clapham-park.
Kaye, Joe Nicholson, L.R.C.P. Ed., Kirkstall, Leeds.
Page, Alfred Matthew, Belsize-park-gardens.
Patrick, Joseph Henry, Birmingham.
Rhys, Watkin Llewellyn, Trehecbert, South Wales.
Smith, Arthur John Nitch, L.R.C.P. Ed., Ely, Cambs.
Stewart, George Eland, Pocklington, Yorks.
St. Romaine, Richmond Edward, Calcutta.
Tanner, Charles Edward, Marlborough.
Trower, Arthur, St. Mary-at-Hill.
Walton, George Augustus Turner, Brook-street.
Weir, Frederick William, Bristol.
Wills, William Alfred, Westminster.

The following gentlemen passed the Primary Examination in Anatomy and Physiology at meetings of the Board of Examiners on the 16th, 17th, and 18th inst.:—

Harry Adams, John Jones, and Walter Malden, St. Bartholomew's Hospital; F. F. Foster-Foster, F. Arnott Collington, H. Munyard Brownfield, T. Forster Christal, and Thomas Halliwell, Guy's Hospital; H. Herbert Atter, Joinville T. Blancard, A. Percy Blenkinsop, R. Brooks Popham, and Frank Boxall, University College; Onslow A. Wickham, J. Cavendish Molson, and W. A. J. Nottingham, London Hospital; Henry R. Blee, Archibald B. Brockway, and Aymor d'Estampes de Vallancey, St. Thomas's Hospital; Charles G. Braine, Harold E. Mortis, and W. H. H. C. Davey, Charing-cross Hospital; Joseph Fayrer, St. George's Hospital; Babaji Saroottam Wankar, Bombay; Rhys Powell, King's College.

COLLEGE OF PHYSICIANS IN IRELAND.—At the October examinations the following candidates obtained the licences in Medicine and Midwifery of the College:—

MEDICINE.—Mary Emily Dowson, Switzer Soutter Harwood.
MIDWIFERY.—Robert Ball, Mary E. Dowson, Nicholas C. Ferguson, Switzer Soutter Harwood, Archibald P. B. Moore, Robert Thomas Alexander O'Callaghan.

The undermentioned have been admitted Members:—

Alexander Fry.
John J. Konefick.
Edward D. O'Neill.
John P. Ryan.
R. H. Robinson, Sur.-Maj. A.M.D.
Henry Walter Boyd.
John Alfred Freud.
Samuel Keays, Surgeon, R.N.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Oct. 16th:—

Bennett, George Herbert, Granville-square.
Bray, Percy Dean, Bognor, Sussex.
Daniel, Ronald Angus, Cornwall-road, Bayswater.
Hood, C. John Jacomb, Broadwater House, Tunbridge Wells.
Jeffree, Frank, Howard Lodge, Atkins-road, Clapham-park.
Laurie, Caspar Robert, The Elms, Buckhurst-hill, Essex.
McCabe, W. Alexander Bowes, St. Helier's, Jersey.
Raywood, John Robert Isaac, Thoone, Doncaster.
Southern, Francis Gerald, Broad-street, Ludlow, Salop.
Voisin, Alexander Biship, St. Lawrence, Jersey.

MR. T. MOSSE MACDONALD has been appointed Secretary to King's College Hospital.

COLLECTIONS in aid of the Dublin Hospital Sunday Fund will be held this year on November 9th.

BY command of the Queen the General Infirmary of Hull will henceforth bear the name of the Hull Royal Infirmary.

AT the quarterly meeting of the Directors of the Naval Medical Supplemental Fund, held on the 14th inst., Sir W. N. E. Smart, K.C.B., M.D., Inspector-General, in the chair, the sum of £58 was distributed among the several applicants.

MR. VANDERBILT has made a donation of 500,000 dollars to the College of Physicians and Surgeons in New York, to be used as a building fund.

ON Saturday last collections were made in the principal thoroughfares of Eastbourne on behalf of the Princess Alice Hospital.

THE Queen has sent a portrait of herself and one of H.R.H. the late Duchess of Kent to the Royal Hospital for Diseases of the Chest, City-road.

MR. M'DONAGH, who is in his eighty-fourth year, and has been medical officer of the Clapham district of the Wandsworth Union ever since the formation of the board, has been granted a superannuation allowance of £47 10s.

ASSISTANT COMMISSARY GENERAL J. S. YOUNG has been appointed by the National Society for Aid to the Sick and Wounded in War as the Society's agent with the expeditionary force under the command of Lord Wolseley in Egypt.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—At a meeting of the general committee, held on the 16th inst., a letter was read from Mr. Chesshire resigning his appointment as honorary surgeon, and the committee unanimously passed a resolution expressing their regret at losing the services of Mr. Chesshire, and their sense of the value of the work done by him in the hospital for the long period of forty years.

A HANDSOME GIFT.—A patient of Dr. Braxton Hicks having placed a sum of money at his disposal to lay out on any good work he thought fit, Dr. Hicks has just presented his native town, Lymington, Hants, with a complete Ashford litter, with all the requisite extras; and also a quantity of nursing material to form a depôt for lending out. At the presentation a St. John Ambulance centre was formed to take charge of it; and the nursing material was placed under the care of the hon. secretaries of the already existing nursing class of the association.

TESTIMONIAL TO DR. J. NORTHCOTE VINEN.—At the last meeting of the Society of Medical Officers of Health, Dr. J. Northcote Vinen, who has for twenty-one years held the office of honorary secretary to the Society, was presented with a testimonial on his resignation. The testimonial bears witness to "the long and valuable services which Dr. Vinen has devoted for a period of more than twenty years, with manifest advantage to the interests of the Society." But Dr. Vinen's services have not been confined to the Society only. As its honorary secretary, his efforts have not been less beneficial to the community at large, and others besides its members will join in "sincere good wishes for his future welfare and prosperity."

COLLEGE OF PHYSICIANS IN IRELAND.—On St. Luke's Day, the 18th inst., the following office-bearers were elected for the ensuing year:—President: F. R. Cruise. Vice-President: George F. Duffey. Censors: G. F. Duffey, J. M. Purser, F. J. B. Quinlan, J. R. Kirkpatrick. Additional Examiners: J. Magee Finny, A. Foot, C. J. Nixon, J. M. Purser, F. B. Quinlan, W. G. Smith. Examiners in Midwifery: Stephen McSwiney, W. J. Smyly. Professor of Medical Jurisprudence: Robert Travers. Representative on the General Medical Council: A. Smith. Registrar: J. Wm. Moore. Treasurer: Aquilla Smith. Examiners for the Certificates in Sanitary Science: Drs. Duffey, Smith, and Quinlan, with Messrs. Price and Parry. Librarian: Samuel W. Wilson. At the same meeting John M. Redmond was elected a Fellow of the College.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

AITCHISON, HENRY HYSLOP, M.B., L.R.C.P.Ed., has been appointed Medical Officer for the Wallsend District of the Tynemouth Union, vice J. Aitchison.

APPLEFORD, S. HERBERT, M.R.C.S., L.R.C.P.Lond., has been appointed Surgeon to the Eastern Dispensary, vice James E. Adams, Esq., resigned.

BARBER, FREDERIC S., M.R.C.S., has been appointed House-Surgeon to the Kidderminster Infirmary, vice Kitching, resigned.

BERINGER, J. J., F.C.S., has been appointed Public Analyst for the Borough of Falmouth.

CALER, CLEMENT C., M.B., M.R.C.S., has been appointed House-Physician to the North London Hospital for Consumption and Diseases of the Chest, Hampstead.

CHILTON, MAURICE ALFRED, L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Resident Medical Officer to the Wellington Hospital, New Zealand.

CUTHBERT, WILLIAM THOMAS, L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer to the Ravenswood Hospital, Queensland.

EVANS, E., B.A.Cantab., has been appointed Demonstrator of Physiology at St. Mary's Hospital Medical School, Paddington, vice Dr. Nall, resigned.

JAYNES, VICTOR A., M.R.C.S., L.S.A.Lond., has been appointed Public Vaccinator for Bermondsey, vice Cuolahan, deceased.

LAWRIE, MACPHERSON, M.D., has been appointed Physician and Gynæcologist to the Sanatorium, Weymouth.

MORRIS, DAVID WILLIAM, L.K.Q.C.P.I., M.R.C.S., has been appointed Medical Officer for the Third District of the Dursley Union, vice Connellan.

SHACKLETON, EDMUND, L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer and Public Vaccinator for the South Norwood District, Croydon Union, vice W. Milligan, M.R.C.S., L.R.C.P.Ed., resigned.

SHAW, H. C. COSTELLO, M.R.C.S., L.R.C.P.Lond., has been appointed Resident Medical Officer to the Richmond Hospital, Surrey, vice A. L. Copner, resigned.

SMAILES, THOMAS, L.R.C.P.Ed., M.R.C.S., has been appointed Medical Officer for the Honley District of the Huddersfield Union, vice Dyson.

TENNANT, CHARLES, M.R.C.S., has been appointed Medical Officer for the Houghton-le-Spring District of the Houghton-le-Spring Union, vice Lyon.

WEBB, MALCOLM, M.B.Lond., M.R.C.S., has been appointed Resident Medical Officer to the Royal Infirmary, Manchester, vice David Grant, M.B.Ed., resigned.

WILSON, JOHN SMITH, L.R.C.P.Ed., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the Walgett District, New South Wales.

Births, Marriages, and Deaths.

BIRTHS.

DUKE.—On the 13th ult., at Quetta, the wife of Surgeon-Major O. T. Duke, Political Agent, Kelat, prematurely, of a son.

HILLIARD.—On the 21st inst., at Aylesbury, the wife of R. Harvey Hilliard, M.D., of a daughter.

HOUGH.—On the 18th inst., at Full-street, Derby, the wife of C. H. Hough, of a daughter.

MARSHALL.—On the 17th inst., at Nottingham, the wife of Lewis W. Marshall, M.D., of a daughter.

MARRIAGES.

BALL—COLES.—On the 16th inst., at St. James's, Exeter, William Montague Ball, M.B., of Hounslow, to Marion, daughter of the late Thomas Dareford Coles, of Castle Cary, Somerset.

HACON—CAMPBELL.—On the 1st ult., at St. Paul's Cathedral, Wellington, New Zealand, by the Ven. Archdeacon Thorpe, Walter Edward Hacon, L.R.C.P.Lond., Resident Medical Superintendent of the Hospital for the Insane, Sunnyside, Christchurch, N.Z., to Margaret Jane, daughter of A. de Grand Campbell of Wellington.

HOPE—WEBER.—On the 15th inst., at St. Margaret's Church, Whalley Range, Manchester, William Hope, M.D., of Curzon-street, London, to Adèle, daughter of the late L. F. Weber, Esq., of Timperly, Cheshire.

LAURIE—MACLEOD.—On the 15th inst., at Melville-street, Edinburgh, William L. Laurie, M.D., of Drumnisl, Appin, Argyleshire, N.B., to Jessie, youngest daughter of the late Rev. Norman Macleod, Free Church Minister, North Uist.

NEALE—CRISP.—On the 21st inst., by the Rev. Canon Duckworth, D.D., William Henry Neale, M.D.Lond., B.S., F.R.G.S., 24, Loudoun-road, N.W., second son of Dr. Richard Neale to Alicia Eyre, fourth daughter of the late Artis Crisp, of 86, Boundary-road, N.W.

PIRRIE—TYTLER.—On the 16th inst., at Victoria-street, Aberdeen, James Miller Gordon Pirrie, M.D., of Aberdeen, to Mary Penelope, youngest daughter of the late R. B. Tytler, Esq., of Ceylon.

DEATHS.

BARHAM.—On the 20th inst., at Truro, Charles Barham, M.D.Cantab., aged 80.

CHAVASSE.—On the 19th inst., at Wylde-green House, Wylde-green, near Birmingham, Thomas Chavasse, F.R.C.S., aged 54.

GEOGHEHAN.—On July 21st, at Sydney Arthur F. Geoghehan, M.B., M.Ch.Dub., aged 23.

MERCER.—On the 15th ult., at Equira, West Coast Africa, Adolphus Richards Mercer, M.R.C.S., youngest son of the late Thomas Mercer, Watton, Herts, aged 38.

PEARCE.—On the 5th inst., at Holsworthy, North Devon, Edward Thomas Pearce, Surgeon, aged 40 years.

RABBETH.—On the 20th inst., at the Royal Free Hospital, Gray's-inn-road, Samuel Rabbeth, M.B.Lond., M.R.C.S., &c. &c., of diphtheria, caught from a child whom he was attending professionally, and whose life he made a noble effort to save by an act that was certain to place his own in extreme danger, aged 36. The funeral will take place at Barnes Cemetery on Monday, at 2 P.M.

SCOTT.—On the 21st inst., at St. Leonards-on-Sea, Andrew James Scott, M.D., late Madras Medical Service, aged 67 years.

WORRALL.—On the 10th inst., after an operation for neuralgia, John Charles Worrall, M.R.C.S., L.S.A., of Overndale House, near Bristol, eldest son of the late Captain Worrall, R.N., of Pownall Hall, Cheshire, aged 79.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, October 23rd, 1884.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp.	Rain fall.	Remarks at 8.30 A.M.
Oct. 17	30·36	W.	57	55	..	61	54	..	Overcast
,, 18	30·39	N.W.	57	55	..	60	53	..	Overcast
,, 19	30·48	W.	55	52	..	63	46	..	Bright
,, 20	30·37	N.W.	57	47	..	54	46	..	Hazy
,, 21	30·39	S.W.	50	47	..	53	47	..	Overcast
,, 22	30·23	S.E.	52	49	..	59	48	..	Hazy
,, 23	30·10	S.E.	45	45	..	49	42	..	Foggy

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe, or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

THE RELIGIOUS PRESS AND "QUACK" ADVERTISEMENTS.

THE "quack" advertisements which are circulated by professedly Christian journals are among the offences which cause intelligent and reverent men to doubt. A specimen of such advertisements is sent to us (from a religious journal having a very wide circulation), abusing the medical faculty and vaccination, and extolling the "Anti-vaccination Mixture." The whole thing is so absurd that we are almost ashamed to notice it, excepting to regret that a well-meaning contemporary should permit such rubbish to appear even in its advertisement columns.

Mr. J. W. Philip.—The facts are very interesting. But facts are quite thrown away on anti-vaccinationists.

"AN APPEAL TO PUBLIC VACCINATORS."

To the Editor of THE LANCET.

SIR,—I beg to thank those gentlemen who were kind enough to answer my appeal in your journal, some of whose letters give interesting facts relating how the writers commenced their work by making six vesicles, but in self-defence were compelled to reduce the number to four in order to compete with qualified (!) men who advertise to vaccinate only in one or two places, or because of threats held out to them by those who did not approve of their mode. I have heard of man vaccinating children and giving a certificate the same day, without waiting to see whether the operation had proved successful; but I little thought there were any who increased their charges on the sole condition of reducing the number of vesicles. A vaccination officer of a large district tells me that he occasionally finds children of whom he has received successful certificates with such results of the operation that neither he nor the mother can tell on which arm it was performed. Of the twenty-two answers I have received one public vaccinator makes 2 vesicles "of good size," one makes 2 the size of a threepenny-piece, six make 4 and four make 5 the sizes of which are not given, one makes 3 the size of a sixpence, two make 4 the size of a threepenny-piece, one makes 4 of half an inch in diameter, two make 4 of three-eighths of an inch in diameter, one makes 4 or 5 of a quarter of an inch in diameter, one makes 6 of five-sixteenths of an inch in diameter, one makes 3 on each arm, and one considers his scarifications are equal to 6 or 8 vesicles. As the large majority seem only to make *four* marks, I must conclude that they are right, and that I am over-zealous in producing more than that number, and suppose I must be more moderate in future. With such a range of numbers and sizes it seems to me that some of us must be doing superfluous work, or others are hardly coming up to the mark. Surely, we can decide upon some standard of size and number, and avoid the remarks of mothers about Dr. So-and-so's places being so much smaller or fewer, bearing in mind, however, the result of Dr. Marson's observations—the greater the number of marks, the less the mortality from small-pox.

I am, Sir, yours truly,

Walthamstow, Oct. 20th, 1884. THOS. SCORRSBY-JACKSON, M.D.

AN ASTOUNDING CIRCULAR.

A DISTINGUISHED member of the profession has received the following circular, which we publish in full.

"DEAR SIR,—We enclose card of a wine we are advertising extensively, and shall be glad to know if you would allow us to send you a sample of it for purpose of analysis, and to obtain your certificate. We are willing to pay any reasonable fee for same. Kindly reply early as convenient, and oblige yours truly, "JAMES GREEN AND CO.

"Castle-street, Dublin, and London."

It is to be hoped that all medical men to whom the attractive combination of advertisement, samples, and fees is presented will intimate to the senders their sense of insult and injury.

Dr. F. E. Pearse.—1. A Poor-law medical officer is not bound to attend upon an overseer's order, unless it is marked "urgent," or unless by special contract made with the guardians.—2. A coroner has nothing to do with making orders to Poor-law medical officers. Of course, he can give his own opinion on the matter at the inquest.—3. The overseer ought to have put "urgent" on the order if he considered it urgent, or have sent the messenger to the relieving officer for an order if he did not consider it urgent, unless he felt that an order could not be obtained from the relieving officer on that day or at that time of day.

Malignant Throat.—Our correspondent will find that less caustic remedies suffice—e.g., the diligent application of glycerine of borax, or of a strong solution of carbonate of soda, or the use of spray of lime-water. We have no experience of an application of sublimate and glycerine.

Omega.—For medical anatomy there is no text-book. The viscera, &c., should be read in Gray; therapeutics, Ringer or Mitchell Bruce; insanity, Blandford.

"A MODIFICATION OF DR. JUNKER'S INHALER."

To the Editor of THE LANCET.

SIR,—The makers of Dr. Junker's apparatus have done me the honour of making my paper in your issue of Oct. 4th the text for a eulogy upon their own apparatus. I crave your indulgence for space to set Messrs. Krohne and Sesemann right upon one or two points.

It is admitted that my method of refilling the reservoir is superior to theirs, always provided the stopper fits as it should—viz., firmly enough to maintain the air-tight condition, and yet not so tightly as to offer any obstruction or loss of time in its removal. Now, experience amply proves that this object is attained by my plan. Any competent observer who has used the screw top and then adopted my plan cannot fail to realise the immense superiority of the peg over the screw. I may state there is absolutely no fear of the peg being shot out, as suggested. The objection I urged, that their apparatus makes a natural bimanus into a monomanus, Messrs. Krohne and Sesemann opine, can be obviated by a little skill and practice. Undoubtedly; we are all aware what marvellous dexterity is acquired, by skill and practice for example, by the gentlemen who eke out their income by setting a dozen plates spinning on end. This is wonderful; but is it useful? My contention is that although I presume anyone accustomed to administer anæsthetics with Dr. Junker's apparatus does habitually perform the feat of compressing the bellows, steadying the face-piece, and feeling the maxillary (or, as I should suggest, the facial pulse); yet it is a useless expenditure of energy when so simple a method as mine obviates the necessity. It is, I believe, a wise saying that a man cannot do more than one thing *well* at the same time. When a life hangs in the balance it is certainly right to have at disposal the full complement of hands with which nature has gifted us. Passing to the question of the face-piece, I beg to dissent from the statement that a rigid vulcanite face-piece, even when supplemented by the handkerchief, "does away with the necessity of a series of face-pieces." This is not so in my experience, as the nose-arch is with a thin, emaciated face a source of great trouble, even when held lightly. Patients certainly prefer the soft leather face-piece, and I find it quite as easy to allow them to breathe with comfort when using it as when employing the rigid face-piece. "Junker's inhaler appears to be misunderstood by many." The connexion of this statement is hard to find; nor does it appear to me to be strictly accurate. Dr. Junker himself very lucidly described and explained his apparatus, and Messrs. Krohne and Sesemann have more than once been at the pains of further elucidating the matter in the public press. These accounts he who runs may read. I cannot agree to the statement that the face-piece should not fit the face and needs no accurate co-adaptation. A long experience with the mode of applying the face-piece convinces me that when a gentle stream of air is passed through the reservoir it answers far better to have a closely fitting face-piece.

In conclusion, I would beg to state that my motive for giving publicity to my own instrument was simply to give those interested in the matter a chance of employing a method which has in my hands proved more serviceable than Dr. Junker's. Each practitioner will use his own judgment, and that instrument which seems best in his eyes. It matters very little under whose name the apparatus is known. I regard the modifications I suggested as slight enough in themselves; but I must be pardoned for thinking the *tout ensemble* as infinitely more convenient than the arrangement usually sold by Messrs. Krohne and Sesemann.

I am, Sir, your obedient servant,

Gower-street, Oct. 20th, 1884. DUDLEY W. BUXTON, M.D.

THE EMPLOYMENT OF CHILDREN IN FRANCE.

IN accordance with the law of 1874 which provides for the inspection of all industrial establishments in France where young children are employed, 47,817 shops and factories were visited during last year, of which 24,756 were in Paris. The total number of children of both sexes who came under the inspectors' notice was 213,101, of which Paris contributed 39,434. The legal age for children to commence work is after the completion of the twelfth year, though in certain industries they are permitted to enter the shops two years earlier. Twelve hours a day is the permissible term of labour, and all night work is forbidden. No child under twelve years of age can be employed without a certificate that he or she is sent to school, public or private. Between twelve and fifteen, unless they have a primary elementary certificate, children can only work six hours a day, and are obliged to go to school during the other half. The average number of children having the school certificate between twelve and fifteen years was 69 per cent. in 1883, and of the Parisian contingent the average is 89 per cent. The number of accidents which happened to children last year was 175, of which Paris was responsible for forty-two.

R. D.—The fee in the case mentioned would be £2, according to Art. 183. Foot-note No. 2 to this article in Lumley's Manual runs thus:—"Where delivery of the child had taken place but the placenta was retained, and the umbilical cord having been ruptured the patient's life was in danger, the case was considered to be within this Art. 183."

REGISTRATION OF BIRTH.

To the Editor of THE LANCET.

SIR,—Will you kindly give me your opinion of the following case your next issue.

A young married woman while on a visit to her parents was prematurely confined. The mother and child both did well, and as soon as possible returned home, to H——, nearly fifty miles, without registering the birth of the child. At H—— the registrar said he was unable to register, saying it must be done where the birth occurred. The mother accordingly wrote to her parents to that effect, and her father went to the registrar, who, however, refused to register without the presence of one of the parents of the child, and compelled the mother to travel all the way from H—— for that purpose. Was this absolutely necessary?

I am, Sir, yours truly,

Oct. 14th, 1884. G. S.

*** It appears from the statement of facts in our correspondent's letter that the local registrars of births and deaths were but imperfectly acquainted with their duties, as it was certainly unnecessary for the mother to travel fifty miles to register the birth of her child. The registrar of the place where the child was born should, under the circumstances, have accepted the information of the grandfather and occupier of the house in which the birth took place; or the registrar of the place where the mother resided should have taken the information of the birth from one of the parents, in the manner provided by the Births and Deaths Registration Act of 1874, and forwarded it to the registrar of the place where the birth took place, to be inserted in his birth register. The facts should be reported to the Registrar-General, at Somerset House, London, in order to prevent such blunders in future.—ED. L.

"WIDTH OF STREETS."

To the Editor of THE LANCET.

SIR,—In your last issue appeared a short article under the above heading. I desire to call your attention to the way in which streets are being narrowed in London. Many of our broad thoroughfares, such as Euston-road, Cambridge-road, and Kennington-road, were originally built in long terraces of residential houses, with gardens in front of them, at the bottom of which our fathers planted trees that have now grown up to afford a grateful shade to the passers-by. These gardens are rapidly disappearing. The trees are first cut down, and shops are built out in front of the houses. After a few years the shops are improved (!) and houses of several storeys are erected in their places. The streets are thus narrowed, the traffic is congested, and the air stagnates in the deep and narrow streets. Surely, the local authorities or the Board of Works might make an effort to preserve these fine thoroughfares at their original width. If when shops were necessitated by the spread of the metropolis they could be built on the level of the present houses, the gardens might be paved, and the trees left to form a pleasant shade between the footpath and a roadway that might be widened by the addition of the present foot pavement.

I am, Sir, yours obediently,

HENRY B. COLLINS,

Margaret-street, W., Oct. 18th, 1884. Surgeon R.N. (retired).

Bursitis Bursæ Patellæ.—The easiest mode of settling the question would be to translate the terms into English. Bursitis bursæ patellæ: inflammation of a bursa, of the bursa of the patella. The phraseology certainly seems redundant; it means inflammation of the bursa of the patella.

Enquirens asks, What will be the best contrivance to get for a patient whose two arms he has amputated an inch and a half above the elbow-joint.

M.—We see nothing to object to in the statements conveyed in the circular; and so long as it was addressed only to the class it was intended for, we think the medical officer was justified in issuing it. During periods when epidemics are rife it is only right and proper that those responsible for the health and well-being of large bodies of men should issue plain and comprehensive instructions to those under their own immediate care. The procedure only becomes doubtful when such circulars are addressed to the public at large without the co-operation of the other medical men of the district.

Mr. W. Waterfield.—The melancholy occurrence, which we notice elsewhere, will no doubt give rise to many suggestions with a view to obviate the need of resorting to the procedure which had in the case referred to so lamentable a result. But mechanical means for clearing a tracheotomy tube have hitherto been found to be unavailing, chiefly because the danger to life being sudden and imminent, the instrument is rarely at hand for immediate use.

J. P.—See reply above.

"RIDING *v.* DRIVING."

To the Editor of THE LANCET.

SIR,—In answer to the correspondent who wrote on the above subject in your last issue I beg to submit my experience.

If expedition is considered, preference must be given to driving. I quite agree with your correspondent that cobs about fourteen hands are more useful than larger animals; they are sufficiently strong for heavy roads in winter. There is no doubt that the legs of Welsh cobs, with quality, suffer less from regular work on hard roads than do those of English horses. If speed is not a first consideration, and if in addition the roads are rough, it seems that considerable advantages are to be derived from riding, foremost among which I would place the exercise riding affords. Speaking generally, it is probably more convenient and less expensive for a man not above middle weight to drive most in summer, when the roads are hard, and ride most in winter. The disadvantages of riding on ordinary visiting rounds consist of mounting and dismounting, compared to stopping in and out of a trap, and the necessity of leaving the horse in charge of a stranger during the visit. For night work I believe riding is safer than driving, as the most common risk, especially during dark nights, arises from coming into collision with vehicles; and as it is probable that a horse can see very much better than his rider in darkness, the risks of collision are lessened by riding, as most horses will not go too close when passing other vehicles. I fail to see any reason why your correspondent should not again get used to the saddle, for many men aged upwards of eighty ride, and even follow the hounds.—Yours faithfully,

Oct. 21st, 1884. A PRACTITIONER OF TEN YEARS' STANDING.

To the Editor of THE LANCET.

SIR,—I feel I have some claim to offer an opinion on the relative merits of riding and driving, seeing that during the last seventeen years I have had an extensive practice in a hilly district, with execrable roads, in Devon, and have given the saddle, as well as two- and four-wheel carriages, a fair trial.

To a good horseman of light weight, who can afford a really well-bred, shapely hack, there is no more agreeable, safe, and speedy mode of accomplishing a long professional round, by night or day, than in the saddle, provided, of course, the animal is sufficiently quiet to be trusted for short periods to the care of a woman, or even child, or fastened to a gate. Although middle-aged, I am quite capable of riding a spirited horse a long journey, and am thankful to say that, so far, I have had no experience of any kind of covered carriage. I vary my rounds by occasionally driving myself in a light dog-cart; but I never use the same horse in saddle and harness. In wet weather a carriage may perhaps be the more comfortable, but in cold weather I much prefer the pig-skin. A four-wheel is safer than a two-wheel carriage, but more costly in itself, as well as in its horsing. When called up at night I disturb no one in my house, but saddle and bridle my horse myself, and am thus to some extent independent of the men who object to live with doctors on account of night work. I am, Sir, yours truly,

Devon, Oct. 20th, 1884. F. M.

SHIP SURGEONS.

To the Editor of THE LANCET.

SIR,—I have been sailing in one of the Transatlantic liners for some time past, and on the last voyage heavy weather was encountered. On my being called to see a lady, a second-cabin passenger, I found her suffering from subacute rheumatism. On putting my hand on the bed I found it as damp as if it had been dipped in the sea, in consequence of a leak in the upper deck. I spoke to the captain about getting the patient removed to the first cabin, the other second cabin berths being occupied. In reply I was told that I might, if I wished, give the patient my own room, to which I rejoined that in the event of her dying, or even being taken worse, the Board of Trade would probably have something to say in the matter. Fortunately, however, the weather moderated, and the patient got well. But, to my surprise, a day or two after landing I received a note from the office informing me that my services would be no longer required. On asking the reason of my dismissal, I was informed that reasons were never given. Surely, it is time the Government took the matter up, for the protection of men who honestly do their duty. I am, Sir, yours truly,

Liverpool, Oct. 20th, 1884. L.R.C.P.

DRINK IN WORKHOUSES.

AN interesting report of the amount of "drink" consumed in the Islington workhouses is published. The average cost per head per annum is, for the workhouse and infirmary combined, 10*s*. The chief items are 231 gallons of brandy and 2752 gallons of porter. The chairman's defence of the large quantity of porter consumed was that it was given to paupers for work done in the house. We think this a bad defence. If paupers do more work than they are paid for in the board and lodging they receive, let them be paid in money, or in some other form of wages than porter. Porter may be defended as medicine, or even as diet in some cases, but as wages it is demoralising and indefensible. The brandy is chiefly consumed in the infirmary. The amount is large, but doubtless commends itself to the judgment of the intelligent medical officer, Dr. Wright.

Hygiene.—Parkes' Hygiene, Ganot's Physics, Baldwin Latham's Sanitary Engineering, and the Public Health Acts. A practical knowledge of chemistry and microscopical analysis of water is required, as well as of the manner in which a sanitary report should be written.

Dr. Harkin (Belfast).—The paper will be published shortly.

"EARTH AS A DRESSING FOR SPRAINS."

To the Editor of THE LANCET.

SIR,—The letter in your issue of Oct. 11th from Dr. Schaeffer of Baltimore, on the above subject, cannot fail to be of interest to the profession—at least, in my opinion. I would like to know if the application of earth signifies soft clay, which may afterwards become dry, forming a more or less firm support; or dry earth, as is used in foul ulcers as a disinfectant. This dressing commends itself on the ground of being cheap and nearly always available. It would require to be added to the marine medicine chest. An accident producing sprain may occur to anyone, and at any time, and may be of almost any degree of severity. I will, however, confine my attention more particularly to that lesion referred to in the letter alluded to—viz., sprain of the ankle-joint. The most frequent cause is violent twisting, generally accompanied by rupture of some of the ligamentous fibres. The pain is very severe, and difficult to alleviate. The sufferer must, practically speaking, remain in bed, and as the march towards repair is slow, the health and temper in general suffer. My experience has not been large, nor the result satisfactory. In one case (that of a lady) recently treated I used at first a cooling lotion of chloride of ammonium with opium, ice not being available. The pain was very severe. I changed the application to a hot one, with poppy heads, as recommended by Gorham (THE LANCET, July, 1879). This was more grateful. Rest, of course, was as perfect as possible; but an attack of hysterics more or less active, extending over more than a week, exercised the joint more than I deemed beneficial. A flannel bandage could not be borne. I therefore delayed applying a plaster-of-Paris bandage (or splint) until about the end of the third week, when the patient had to leave for the Continent. She bore the journey (about 1000 miles) fairly well. She had all along complained of severe pain in the knee, which was not rheumatic. There was no swelling, and motion was not prevented. I considered this pain to be of nervous origin, in which opinion the patient's continental surgeons concurred; but they considered the pain in the ankle to be nervous also, and, removing the plaster, insisted upon the patient walking. I predict the failure of this treatment, but trust it may prove successful. The general treatment was according as the symptoms required. I regret I could not have access to the valuable works of Erichsen and Bryant, recently published. Some surgeons recommend hot applications, and others cold, while many advise bandaging (which could not be borne in this case), or a plaster splint early applied. I believe this treatment the most valuable—the form called "Bavarian," described by Esmarch, inasmuch as it provides necessary rest and permits the patient to enjoy a certain amount of exercise. It can also be more readily removed and reapplied. I would like to have some opinion on "forced locomotion" after a certain lapse of time. In a former case which I treated several months after a second accident had produced the sprain an abscess formed, but the patient died of acute phthisis. The patient in another case, which I had under observation about two years, was unable to walk. Others I have seen "laid up" for a year or more. This subject, therefore, is an interesting one to me, and I trust this letter may not encroach too freely upon your space. I am, Sir, yours truly,

Oct. 14th, 1884. BEAVER.

Mr. J. Moir.—We thank our correspondent for copies of his letter. Such letters are of great use, and tend to enlighten all who are capable of enlightenment. The immunity of the officials of small-pox hospitals obtained by revaccination might have received more attention from our correspondent. By itself, this fact is an overwhelming demonstration of the virtue of vaccination.

Student should address his queries to the respective authorities.

TRUSS FOR OBLIQUE INGUINAL HERNIA.

To the Editor of THE LANCET.

SIR,—Can any of your readers from personal experience recommend me a good truss for oblique inguinal hernia? I am very actively engaged in a large country practice, and have riding. I have tried many trusses, and all are very uncomfortable; I find the underneath strap so worrying. I am, Sir, yours truly,

Oct. 22nd, 1884. GENERAL PRACTITIONER.

ERRATA.—In our Paris correspondent's letter of last week, in the paragraph giving an account of Dr. Maurin's lecture on the etiology of cholera, in the twenty-second line from the top of the second column, instead of "$\frac{1}{100000}$th part of iodine" read $\frac{1}{10^{6}}$th part of iodine. In line six from the end, by a typographical error, "acetions" appears for acetous. "M. Arousshon," in the first line of the last paragraph, should be M. Aronsshon.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. F. J. Gant, London; Dr. Herman, London; Mr. C. T. Ewart, Whitstable; Dr. Thorburn, Manchester; Mr. Waterfield, Stonehouse; Mr. Gell, Birmingham; Brigade Surgeon Henaman, Taunton; Dr. Campbell Pope, London; Messrs. Southall, Birmingham; Dr. Scoresby-Jackson, Walthamstow; Dr. Kane, Guildford; Dr. Fowler, London; Dr. S. Ringer, London; Miss Chreiman, London; Dr. Adam, Hong Kong; Dr. Bramwell, Perth; Dr. Harkin, Belfast; Dr. Wharton Hood, London; Mr. Andrew Clark, London; Mr. Storry, Stroud; Mr. J. W. Philip, London; Dr. Suckling, Birmingham; Mr. E. S. Webber, London; Mr. Towse, London; Mr. Tomkins, Gloucester; Mr. Lovett, London; Dr. Dixon, Preston; Dr. Gordon Holmes, London; Dr. L. Armstrong, Newcastle-on-Tyne; Mr. Halliburton, London; Mr. J. Moir, London; Dr. Pearse, Frome; Mr. Briscoe, London; Dr. G. de C. Morris, Liverpool; Mr. Ram Krishna; Mr. Collins; Mr. Hofler, Bilston; Messrs. Arnold and Son, London; Mr. G. A. Woods, Southport; Mr. F. J. Smith, London; Dr. De H. Hall, London; Mr. Hall; Mr. Mackey, Edinburgh; Mr. Welch, Bury; Dr. Craig; Mr. Millen, Salford; Mr. Geach; Mr. Parrot, Aylesbury; Mr. Forbes, Drumlithie; Mrs. Aitkin; Mr. Parsons, Coventry; Messrs. Sonnechein and Co., London; Messrs. Trübner and Co., London; Messrs. Whitehead and Co., Manchester; Mr. Low; Messrs. Kegan Paul and Co., London; Mr. Percival, Leamington; Mr. Scott, Manchester; Dr. C. Black, Glasgow; Dr. McNaughton Jones, London; Mr. Whittan, Nelson; Mr. Macdonald, Dumfries; Messrs. Read and Co., Bristol; Dr. Halifax, Sunbury; M.B.; Subscriber; Enquirens; Hygiene; Omega; A. B. S.; F. M.; A Practitioner of Ten Years' Standing; A Constant Reader; L.R.C.P.; S.C., Hyde; Sigma; M.R.C.P., Tottenham; M.D., Berkhampstead; Malignant Throat.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Dodd; Mr. Clark, Stamford; Mr. Jones; Mr. Watt, Hovingham; Dr. Pope, Eardesley; Dr. McAdam, Edinburgh; Messrs. Keith and Co., Edinburgh; Mr. Mason, Highbury; Mr. Williams, Oxford; Mrs. Bushey, Birmingham; Miss Meyer, Holloway; Mr. Farringdon, Bradford-on-Avon; Mr. Gold, Kensington; Mr. Pearse, Bromley; Mr. Marsh, Wigan; Messrs. Hobson and Co.; Mr. Maloney; Mr. Armstrong, Rochdale; Mrs. Brace, Barrow-in-Furness; Mr. Wheeler, Sheerness; Miss Gillies, Maidstone; Mrs. Clark, Tunbridge Wells; Miss Hay, Bournemouth; Mr. Ling, Saxmundham; Mr. Walker, Aylesbury; Mr. Walker, Longford; Mr. Morgan, Lichfield; Mr. Wray, Highgate; Mr. Atkins; Mr. Robinson, Huddersfield; Dr. Batterbery, Berkhampstead; Mr. Morris, London; Mr. Horse, Hough; Mr. Mitten, Eastbourne; F. B.; T. B., West Leigh; Medicus, Dromore; R. H., Beeralston; T. G. T., London; K. M. D., Sheffield; A. E. F., Birmingham; X. Y. Z., London; M.R.C.S., Doncaster; A. B. C.; C. H., Stockwell; Amicus, Peterboro'; Medicus, Weston-super-Mare; M.D., Swanage; Attendant, Brixton; X. Y. Z.; Medicus, Manchester; Alpha, Wellington; J. G.; Surgeon, Edinburgh; Surgeon, Bermondsey; Fraser, York.

Western Morning News, Bradford Observer, Bradford Daily Telegraph, Somerset and Wilts Journal, Sheffield Daily Telegraph, &c., received.

Medical Diary for the ensuing Week.

Monday, October 27.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M
ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesdays at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Spencer Watson: Hypertrophic Rhinitis.—Dr. J. Kingston Fowler: Functional and False Cardiac Murmurs.—Dr. J. Braxton Hicks will show a machine for dry air disinfection.

Tuesday, October 28.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 P.M., and Thursdays at 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations. 2.30 P.M.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Mr. William Adams: Excision of the Head of the Femur in a case of Unreduced Spontaneous Dorsal Dislocation occurring during Fever.—Mr. Walter Edmunds: A Case of Cirsoid Aneurysm on the Dorsum of the Foot, with remarks.

Wednesday, October 29.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.—Ophthalmic Operations on Tuesdays and Thursdays, at 1.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.—Skin Department: 9.30 A.M., on Tuesdays and Fridays.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.

Thursday, October 30.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

Friday, October 31.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.

Saturday, November 1.

KING'S COLLEGE HOSPITAL.—Operations, 1 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M

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